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TABLE OF CONTENTS PAGE IV

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THE JOURNAL
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Pulmonary Heart Disease

HOMER A. RUPRECHT, M.D.
TULSA

This syndrome is one of the less common, yet by no means rare, forms of heart disease which has not attracted the attention it deserves, and whose diagnosis is often missed. Under the term "pulmonary heart disease" are included a host of conditions varying widely in etiology and pathology but having in common the fact that they place a burden on the lesser or pulmonary circulation. The pulmonary circulation consists of right auricle, right ventricle, the pulmonary artery and its branches down through the lung capillaries and then back through the pulmonary veins to the left auricle. Lesions capable of throwing a strain on the right heart may be found at almost any point within this system. It follows, therefore, that pulmonary heart disease must be regarded as a symptom complex rather than as a disease entity. As a matter of fact, the separate entities were recognized long before any attempt was made to combine them on a common physiological basis.

Ayerza's disease is a name that has been given to one group of these cases characterized by sclerosis of the pulmonary artery, and was originally thought to be due to syphilis. Ayerza's original conceptions have been pretty well refuted, and the term is rarely used in this country; but it has served a useful purpose in stimulating interest in this group of conditions.

Cor pulmonale is another widely used term and is synonymous with pulmonary heart disease. Moschcowitz uses the term "hypertension of the lesser circulation." "Emphysema heart" is another widely used term but obviously has a narrower application. However regardless of the term which we use, our conception of the condition is that it is the result of some lesion which throws an increased demand for work on the right ventricle.

ETIOLOGY

Among the conditions capable of producing this symptom complex are chronic pulmonary emphysema, mitral stenosis and insufficiency, pulmonary tuberculosis, bronchiectasis, the pneumokonioses, chronic indurative pneumonitis, syphilitic aneurysm, chronic obliterative pleurisy, lung tumors, asthma, congenital heart disease, stenosis of the pulmonary artery, and deformities of the chest and spine.

In addition to the above causes which are chronic in character and as a result of their chronicity throw a strain on the right heart producing hypertrophy and dilatation, there is another group which is less well recognized and which may suddenly throw an overpowering load on the right heart, thereby causing acute pulmonary congestion. Clinically this is recognized as acute pulmonary edema and is seen in pulmonary embolism when the lung field is suddenly and markedly reduced, in the presence of hypertensive or rheumatic disease following some unusual stress, or even in normal hearts following severe unaccustomed exertion.

PATHOLOGICAL PHYSIOLOGY

Somewhere between the pulmonic and mitral orifices there is an obstruction to

the flow of blood. This raises the pulmonic blood pressure behind the obstruction and increases the work required of the right ventricle. As a result the right ventricle undergoes dilatation and hypertrophy. Simultaneously, as a result of the increased pulmonic blood pressure, there is more or less passive congestion in the lungs with a consequent deficient aeration and cyanosis. If the anoxemia is of long duration it may be followed by a compensatory or symptomatic polycythemia. At this stage the heart may be said to have compensated for the handicap placed upon it. However, the right heart is fundamentally a weaker muscle than the left ventricle and therefore its ability to compensate is less and the margin of safety correspondingly smaller. If the condition becomes worse the cyanosis and passive congestion increase, the right heart becomes insufficient and we have added an enlarged liver, markedly distended systemic veins, and edema and ascites. At times the latter reach massive proportions. Terminally there is usually a marked pulmonary edema.

In many cases the red cell count and the hemoglobin are normal, in some there is an anemia due to the associated pathological conditions. Where a polycythemia is present it is usually moderate with a red cell count between five and six million and a hemoglobin between one hundred and one hundred ten per cent. However, in exceptional cases both figures may be quite high although they rarely reach the levels seen in polycythemia vera. The highest figures in my group of cases were eight million erythrocytes and one hundred forty-eight per cent hemoglobin.

In the later stages cyanosis is invariably present and at times may be intense. I know of no other condition which may present as marked a degree of cyanosis. The appearance of these patients may be similar to certain of the aniline poisonings. In the latter, however, we are dealing with a methemoglobinemia rather than an anoxemia.

Because of the pulmonary congestion the vital capacity in pulmonary heart disease undergoes an early and marked reduction and is frequently seen in the neighborhood of one thousand to one thousand two hundred and not infrequently even goes below one thousand.

PATHOLOGY

With regard to the heart itself the pathology of pulmonary heart disease is quite simple. It consists essentially of dilatation and hypertrophy of the right ventricle and auricle. The capacity of the right ventricle to hypertrophy is limited and the weight of the heart is never very great. Only rarely does the thickness of the hypertrophied right ventricle exceed that of the normal left. Pulmonary heart disease occurs most commonly in the fifth, sixth, and fourth decades in the order given and therefore coincides roughly with those age groups in which vascular disease is most apt to occur. Consequently, we often find it combined with other types of heart disease notably hypertensive and coronary disease. In such cases it may be difficult or impossible to correctly evaluate the various factors. Frequently our honest clinical diagnosis must be heart disease of unknown etiology and it is only at autopsy that its true nature is learned. On the other hand the diagnosis is missed only too often because its possibility is not kept in mind.

The pathology of the circulatory changes consequent upon right-sided failure is similar to that of heart disease in general except that the pulmonary congestion is apt to be more marked.

The pathology of the causes of pulmonary heart disease is quite varied and will be briefly outlined.

Congenital heart disease produces this syndrome in three principal ways; pulmonic stenosis, patent ductus arteriosis, and patent interventricular septum. In the last two conditions the blood is shunted from the higher pressured systemic circulation to the lower pressured pulmonic circulation thereby increasing the pressure within the latter and forcing the right heart to do an increased amount of work.

In chronic pulmonary emphysema there is a reduction in the capillary bed of the lungs thus raising the peripheral resistance and increasing the load on the right ventricle. If we exclude mitral disease, chronic pulmonary emphysema is by far the most common cause of pulmonary heart disease in the northern part of the

United States. Because of the milder climate it is seldom seen here in Oklahoma. Characteristically such a patient is of the pyknic type, short, powerfully built, short neck, heavy shoulder muscles, and a barrel-shaped chest. The cyanosis is well marked. His respirations are rapid and shallow. Expiration is active and there is an audible expiratory wheeze. The neck veins are markedly distended. The liver is well down below the costal margin. There may be some abdominal ascites and dependent edema. Examination of the heart is unsatisfactory. No activity can be felt. The lungs are hyper-resonant and the heart borders cannot be outlined. The heart sounds are distant and no murmurs are heard. The lung bases descend very little with inspiration. The costal margins move inward with each inspiration. Auscultation reveals a marked expiratory wheeze throughout both lungs. There are numerous crackling rales at both bases. These patients carry a high alveolar CO^2 with a compensated carbon dioxide acidosis. Consequently their CO^2 combining power is high. This is of significance because with their lowered capacity for minute volume exchange they cannot increase their ventilation as other cardiacs do but are forced to compensate by an increase in plasma carbonate. However, when they reach the upper limit of their ability to compensate they have no further recourse and will break very suddenly. In as much as the heart rarely gives symptoms until the limit of this compensation has been reached they rarely live long after cardiac failure has once set in.

In mitral disease the back pressure in the pulmonary circulation increases thus adding to the work of the right side of the heart. In pure mitral stenosis uncomplicated by insufficiency one often finds the hypertrophy and dilatation confined entirely to the right side.

Chronic pulmonary tuberculosis, bronchiectasis, pneumokoniosis, and chronic fibroid pneumonitis all act similarly by reducing the capillary bed of the lungs by means of diffuse fibroid changes. In these conditions it is obvious that the lesions must be generalized throughout both lungs in order to hamper the work of the heart. In the tuberculosis wards one frequently encounters cases of extensive fibroid disease who are sitting up in bed short of breath, possibly slightly cyanotic, with rapid pulse and a normal temperature. The liver is enlarged and tender and may be palpated well below the costal margin. There is slight pitting edema of the lower extremities. These are cases of pulmonary heart disease and yet they are rarely recognized as patients suffering from heart disease. Or the converse may be true. They may be recognized as cardiacs but because they are afebrile the underlying lung pathology may pass unnoticed until it is accidently discovered at autopsy.

Occasionally a syphilitic aneurysm will produce this syndrome either by rupturing into the pulmonary artery or right ventricle or as in one case which I have seen by compressing the pulmonary artery.

Chronic obliterative pleurisy is not infrequently the only pathological lesion found associated with a cor pulmonale. The frequency of its occurence would seem to show that it has a causal relation but I do not know the explanation.

Deforming bone disease of the spine and thoracic cage is also an occasional cause. The supposed explanation is that a kinking of the pulmonary vessels occurs.

Asthma occasionally produces right heart disease although rarely of the chronic type. It is more likely to cause acute failure with complete recovery as the asthmatic attack subsides. It acts presumably by increasing the intra-pleural pressure and thereby indirectly raising the pressure in the lesser circulation.

Occasionally a case is seen where there are no demonstrable pathological findings except arteriosclerosis of the pulmonary artery and its branches. Whether this is primary or secondary to an increased pressure in the pulmonic circulation is not known. Some observers believe that there is a primary idiopathic hypertension of the lesser circulation analogous but not related to ordinary arterial hypertension.

SUBJECTIVE SYMPTOMS

The symptoms presented by right-sided heart disease are similar to those of congestive failure in general. Those differences which do exist are quantitative rather than qualitative. Shortness of

breath is apt to be more marked and to occur earlier. Cyanosis is more constant and more marked. Edema and ascites are similar in both conditions. Because of the pulmonary hypertension and congestion hemoptysis is common—perhaps the most marked differential symptom. Cough, like shortness of breath, is likely to be more pronounced and to occur earlier. In addition to those symptoms directly referable to the heart we find, of course, a wide variety which are due to the underlying causative factor.

OBJECTIVE FINDINGS

Examination of the heart which is the seat of pulmonary heart disease usually reveals nothing startling. Rarely do we find an increase in the visible activity. Palpation may reveal increased activity over the right ventricle. Ventricular activity may be felt to the right of the sternum. If there is enlargement to percussion it is usually to the right and rarely marked. No significant murmurs are heard unless congenital or rheumatic heart disease is present. The pulmonic closure may be more marked than the aortic. Often physical examination reveals no abnormalities in the heart itself and our diagnosis must be an inferential one, reasoning from evidences of right-sided failure to a cause capable of producing that failure. Physical examination may, of course, reveal the underlying cause. It will bring out evidence of failure such as hyperpnea, cyanosis, ascites and edema. In severe cases of long standing one usually finds clubbing of the fingers and toes. This is the so-called pulmonary osteo-arthropathy. At times this may develop very acutely.

X-ray studies may reveal an enlargement of the right ventricle. Their greatest usefulness, however, lies in the information which they give us regarding the underlying lung disease.

The electrocardiogram shows right axis deviation in a considerable percentage of cases. T wave changes are frequently seen. Auricular fibrillation is not uncommon. Low voltage and bundle branch block are less common findings.

PROGNOSIS

The prognosis depends in large part upon the underlying cause. If it can be satisfactorily treated the prognosis should be good. Unfortunately in the majority of these cases by the time the cardiac condition has become manifest there is little or nothing that can be done for the lung disease. After cardiac decompensation has once set in the prognosis is poor.

TREATMENT

The treatment is that of heart disease in general plus any special measures which may be directed at the cause. Oxygen and venesection are especially important because of the tendency toward cyanosis and pulmonary congestion. Venesection is at times a life-saving procedure.

* * *

DISCUSSION

Dr. C. J. Fishman, Oklahoma City:

The expression of right heart failure as compared with left heart failure has always been in papers either directly or indirectly, of piling up of the circulation of the heart. Whether or not to separate it into two types of heart failure from the practical point of view is questionable, inasmuch as you have just heard that the prognosis when the diagnosis is very unsatisfactory. The frequency with which right heart failure occurs in the pulmonary process which is responsible and the etiological factors for this type of heart disease will lead us to be on guard and give us a clue to prevention. I think one of the most important points Dr. Ruprecht brought out was the last statement—venesection as an important measure of relief for this type of cardiac failure and should be remembered in most types of cardiac failure in which marked respiratory difficulty and marked dyspnea are outstanding features after comparison of physical findings in the heart. Years ago venesection was a measure which was useful in a large number of conditions. It was an important method which was used in many conditions which are now considered harmful, but in cardiac failure and particularly that type with shortness of breath and marked dyspnea that occur when there is failure of the right side of the heart, is a clear cut occasion for venesection, not a few ounces but as large a quantity as the patient can stand, at least one pint, with gratifying relief on the part

of the patient and those associated with him.

Dr. Paul White:

In an article it claimed not to be able to differentiate between acute and coronary thrombosis and acute pulmonary thrombosis. In coronary episodes that have pericardial friction, they do not have coronary friction as they do in others. They have acute cyanotic condition, pasty color. In the clinical pictures the dilatation of the veins is practically always noted in these cases of coronary episode. The electrocardiografs have not altogether been consistent. The acute episodes clear up more quickly than the coronary episodes. There is a very interesting article of the distressed heart in a very recent number of the A. M. A.

Dr. Ruprecht:

Frequently cases are progressing along and then will suddenly collapse, have pulmonary edema and are rushed to the hospital. These patients will be unconscious, moribund and the sudden removal of a large amount of blood will frequently, almost usually, be a life-saving procedure. Venesection is a question of slashing down of a large vein and allowing blood to run out. Operative technic may be gotten to later. A good many lives can be saved if this one particular procedure is kept in mind and action must be prompt or not at all.

The Importance of Fields of Vision*

F. M. Cooper, M.D.
OKLAHOMA CITY

In taking up this subject I feel that it is one which the average physician instinctively dislikes inasmuch as taking a field is time consuming and tedious and he makes as few as his conscience permits. However, we gain information in this manner for diagnosis and prognosis which cannot be obtained by any other means.

There are three main methods of taking fields; the hand method, the perimeter, and the campimeter or tangent screen.

The hand method is that in which the patient faces the physician at arm's length and fixes the physician's eye, while the physician moves his hand, or a piece of white paper or cotton, or a small light, in the field midway between the two and uses his own field as a comparison. This is a very crude but quite useful method. It shows up marked degrees of contraction or hemianopsias which can later be more accurately measured. It can be used at the bedside, for children whose attention wanders quickly, for light projection in cataracts, or as a quick routine office procedure following each refraction.

The perimeter has been highly refined by Ferree-Rand, the value of whose instrument is enhanced by their lighting system making it possible to repeat examinations with the same degree of illumination at each sitting. However, it seems to the writer that except in exceptional cases careful use of any perimeter will give the busy practitioner enough information for his purpose. He should remember that fields vary with intensity of illumination and endeavor to take each field under as similar conditions as possible, preferably using artificial light only. The perimeter is primarily suitable for the peripheral field or that portion which lies beyond the thirty-five degree or forty-five degree radius.

Inside of the thirty-five degree or forty-five degree radius the tangent screen or campimeter is much more elastic. It is the instrument of choice for outlining central defects.

In taking the field of vision, therefore, the patient is first seated at the perimeter and the field outlined. Since the sensitivity of the peripheral portion of the retina is much less than that of the central por-

*Read before the Eye, Ear, Nose and Throat Section, Annual Meeting, Oklahoma State Medical Association, Enid, April 8, 1936.

tion a comparatively large stimulus is used, usually a five mm. or ten mm. object. The blue, red and green stimuli are next used and charted. Then the patient is seated before a tangent screen or a campimeter. The campimeter is handier for routine work than the tangent screen. With a one and one-half mm. or two mm. test object the blind spot is charted and a search for scotomata made. If the blind spot is enlarged or scotomata found, more accurate findings can be obtained by using the tangent screen at one meter and a three mm. object. Best results are obtained by placing the object in the scotoma and drawing it out until seen rather than from the visible to the invisible area. Next the green, red and blue outlines are obtained around the scotoma. Relative scotomata in which the object is seen but indistinctly are mapped. Also a search is made for areas in which color perception is absent but white is present.

It is unnecessary in this brief paper to do more than mention a few of the anatomical relations concerned in interpreting the perimetric findings. The nerve fibres of the retina on the nasal side spread out peripherally from the disc but temporally there are a large number going directly to the macula with the rest bending around the macula to reach the periphery and transversing a much greater era. These fibres are consequently more apt to be affected by local diseases along their course than the shorter ones. Moreover they are arranged in bundles. The papillo macular bundle forms roughly one-fourth of the nerve. At the papilla where it leaves the nerve it is located externally nearest the macula but throughout most of the nerve it occupies a central position. The external fibres of the nerve supply the retina adjacent to the nerve head. Seven-tenths of the optic nerve lie in the orbit, three tenths in the optic foramen, and inside the skull. At the chiasm two-thirds of the fibres cross, thus each nerve supplies the temporal field of the opposite eye and the nasal field of the corresponding eye. The chiasm lies slightly above the groove of the sphenoid bone. Posterior to and beneath it is the sella tursica in which lies the pituitary body. Directly in the posterior angle of the chiasm is the infundibulum or process which connects the pituitary with the brain. Directly over the chiasm is the anterior tip of the third ventricle and to either side are the internal carotid arteries. From the chiasm to the primary optic centers, the external geniculate body, the anterior corpus quadrigeminum and pulvinar, the optic tract extends as a compact group of fibres. From the primary optic centers the fibres radiate by different paths to the fore, mid and hind brain. There are three distinct tracts, dorsal, lateral and ventral. The ventral fibres arch forward forming a loop which extends as far forward as the anterior end of the temporal horn of the ventricle in the temporal lobe, then turn backward to the anterior part of the inferior calcarine cortex. Temporal lobe lesions may therefore be associated with hemianopic visual disturbances. The dorsal and lateral fasciculi pass directly to the occipital cortex. Lesions in the occipital lobe produce as a rule homonymous hemianopsia without either sensory or motor phenomena. The consensus of belief is that macular vision is likewise crossed as are the other fibres as a superficial lesion in the posterior tip of the right macular centers will produce a minute central hemiscotoma in both visual fields to the left.

Now after briefly mentioning a few of the more important considerations of anatomy which will help in our interpretation of field findings, let us take up the special conditions in which fields of vision offer more information than the ophthalmoscope or other common diagnostic aids.

First, let us take up those disturbances of the retina itself. The neuro-epithelial layer of rods and cones derives its nourishment mainly from the choroid, while the internal layers and transmitting fibres are nourished by the retinal vessels. Of course disease of the choroid rapidly affects the overlying retina but broadly speaking choroidal disturbance affects the blue field primarily whereas retinal disease tends to affect the red and green fields disproportionately. Also broadly speaking lesions of the rod and cone layer produce positive scotoma which the patient is conscious of whereas those of the ganglion and axis cylinder layer tend to create negative. Thus in luetic choroiditis early positive scotoma are produced scattered without

relation to distribution of nerve bundles. Occasionally before the ophthalmoscope shows the disease, diagnosis may be made by these scotomas. Also the progress of the disease may be better ascertained by checking the scotomas than by the ophthalmoscope. Luetic choroiditis scotomas tend to coalesce to form ring scotomas.

Idiopathic nyctalopia is characterized by no fundus changes but shows a diminution in color sense centrally and peripherally. The blue field is diminished more than the red showing that it is primarily a choroidal disturbance.

Retinitis compared to choroiditis tends to create greater changes in the red and green fields and more marked contraction of the form field. The scotomas correspond to the areas seen involved with the opththalmoscope.

Retinitis pigmentosa is characterized by a progressive and rapid contraction of the form field, sometimes irregular but usually concentric; preservation of central vision for form and colors long after peripheral vision has become extensively lost; and the absence of central defects until the form field encroaches on central vision.

Solar and electric retinitis are of interest because of the frequency in which they appear in our industrial courts. Perimetrically they are characterized by a central or paracentral scotoma which may be temporary in character but more often permanent. In the zone immediately surrounding this scotoma permanent or temporary marked changes in the color field take place which may be indistinct, relative, or absolute scotoma. The form and color fields are usually contracted. Ring scotoma between the twentieth and fiftieth degrees may be found.

In disseminated choroiditis, high myopia or chronic interstitial nephritis with retinal oedema, in which detachment of the retina is likely to occur and a patient complains of blue or yellow blindness, early retinal detachment may be suspected. Before ophthalmoscopic evidence is clear scotomata for blue and yellow will give evidence.

Evidence of blood vessel changes, hemorrhages, wounds or injuries or colobomas can better be seen with the ophthalmoscope.

In diseases of the nerve head, papilledema, optic neuritis and glaucoma the perimeter is indispensable. Papillitis of any length of time of course gives rise to inflammation of the nerve or optic neuritis but taking it as an entity an enlargement of the blind spot is characteristic. In mild cases there may be only an area surrounding the disc which is blurred for form and color. As the pressure continues this increases to an absolute scotoma. The swelling may persist and injure the papillo-macular bundle and a central relative or absolute scotoma appear which may join the blind spot. Peripheral changes appear late and then not so much from the engorgement of the disc as from toxic action on the rest of the nerve, in other words a secondary neuritis.

A differential point between true and pseudopapillitis is that there is no enlargement of the blind spot in the latter.

In acute glaucoma we need not depend on fields to make our diagnosis but in chronic glaucoma often it is the only way to make a diagnosis. Here we have the usual following changes in order:

1. Early loss of the nasal field.
2. Sector-like defects of the superior or inferior nasal quadrants.
3. Enlargement of the blind spot.
4. Concentric contraction for form and colors.
5. Preservation of central vision for form and colors even if the total field is very small.
6. Preservation of a small temporal island and a small central island.
7. Total loss except for small temporal island.
8. Total blindness.

Since the greatest excavation of the disc is temporally and superiorly and inferiorly, the temporal fibres are more susceptible to injury. Also since they traverse a longer course to get to their destination there is more apt to be injury to them from lack of nutrition under the pressure. Consequently early or chronic glaucoma is first manifest in the nasal field. Also the bundles of nerves passing over this portion of the excavated disc are subject to greater trauma and tend to give the angular or step-like defects first de-

scribed by Ronne. A further development of the same type of destruction is called by the name of Bjerrum who first described it. In this condition the nerve bundle supplying the retina between the tenth and twenty-fifth degrees below or above the fixation center is involved. At first there is an indistinct scotoma for green in this area, then relative, then absolute, forming a small oval or semi-circular scotoma. In Seidel's sign a spur is found developing above or below the blind spot as Bjerrum's sign is developing. These may join together forming one scotoma joined to the blind spot. The contraction for form and color fields is due to the stretching and pressure on the nerve fibres. The preservation of central vision probably lies in the fact that one-fourth of the nerve fibres of the retina go to the macular area and that even if large numbers are destroyed enough remain for clear vision.

Disease of the retrobulbar portion of the optic nerve gives no evidence to the ophthalmoscope unless it is severe enough to involve the papilla or if degeneration has gone to the point of a disc picture of optic atrophy. A perineuritis of the nerve if at all severe develops into a diffuse interstitial neuritis. Field changes usually take the form of bizarre peripheral contractions for form and colors with a tendency to sector-like defects. These changes usually occur from contact infection of the nerve from orbital cellutitis, or sinus disease. If the toxic process is carried by the blood stream the loss of vision is more diffuse and scotomata may appear in any portion of the field including the central. Inflammations distal to the chiasm are apt to be unilateral, otherwise a diffuse neuritis of central origin may give a similar picture.

Toxic amblyopia is characterized by field changes limited to the area supplied by the papillo-macular bundle. Really this process begins in the ganglionic retinal cells but spreads to the papillo-macular bundle and so is usually considered under optic neuritis. The field changes are concerned with the formation of a horizontal oval scotoma which includes the macula and may include the blind spot. It may be indistinct, relative or absolute. Green and red are more affected than blue and white. The scotoma is usually negative, the patient complaining only of central vision being blurred. The peripheral field is clear and only rarely contracted.

Prognosis in optic nerve disease may be made by repeated fields. Green, red, blue then white disappear in order and return in the same order.

The optic nerve in the foramen is separated from the sphenoidal sinus only by a thin parchment-like membrane. The posterior ethmoids may also be in close contact. Abnormal frontals may extend back to the apex of the orbit. The dural sheath of the brain is continuous with the periostium which lines the optic foramen which makes it possible for toxic material to pass directly into the subdural space. The posterior vein of Vossius enters the optic nerve in the optic foramen, occupying in it a central position and passes back toward the chiasm. Into this vein pour the tributaries from the nose and posterior parts of the orbit. Thus the optic nerve may be inflamed from direct contact or by toxins absorbed into the papillo-macular bundle from the posterior vein of Vossius which passes through it. Of the perimetric findings the most imortant because it appears early, is enlargement of the blind spot. This occurs because the peripheral fibres of the optic nerve supply the area immediately surrounding the disc and these are first exposed to invasion from direct extension from the sphenoid and ethmoids. The vein of Vossius, however, soon involves the papillo-macular bundle and a central scotoma develops. Since inflammation of the papillo-macular bundle soon spreads to the other fibres we soon get a contraction of the field as well. Maxillary sinusitis with bone necrosis may cause optic neuritis in this way.

Generally speaking, primary optic atrophy presents a concentrically contracted field with shrinking out of proportion of the red and green fields. Post-neuritic atrophy on the other hand is usually marked by irregular contraction with large re-entering angles. Both may show scotomata.

Secondary optic atrophy after injuries to the nerve such as from a blow on the head may give the same picture as primary optic atrophy one or two months

before anything is evident to the ophthalmoscope.

Injuries and diseases of the chiasm due to the crossed fibres at this location may, if extensive enough, give us an exact localization of the lesion. Luetic, tubercular and traumatic meningitis are probably most frequently found lesions although disease of the pituitary is a common cause. The third ventricle, if distened, may press on the chiasm. Bony exostoses or sclerosis of the internal carotid arteries may cause symptoms. In the chiasm the fibres in the inferior portion of the nerves supply the inferior portion of the retina, the upper nerve the upper retina and each nerve supplies the nasal half of the opposite retina. Thus if the chiasm is divided through the crossed fibres the temporal field of each eye is blind. If a tumor presses equally on both nerves beneath the chiasm the upper portion of each field will be destroyed. Naturally very few lesions will be exactly in the midline or completely alike in their action on both nerves, but the anatomy here makes many lesions easily differentiated from one above or below the chiasm.

The optic tract leading from the chiasm to the primary optic centers is compact and if injured gives a sharp and usually complete hemianopsia of the right or left fields of both eyes. The macula is usually intact. Lesions up to and including the primary optic centers eventually give a white disc to be seen with the ophthalmoscope although the further the injury is from the eyeball the longer it takes to appear.

Lesions of the primary optic centers and the optic tract may be differentiated from those behind in the optic radiations by the Wernicke pupillary reaction. As we know, if light is thrown upon the retina it makes a circuit through the primary optic centers to the motor nuclei and back to the iris causing the pupil to contract. In hemianopisa if a beam of light is carefully placed on the anaesthetic retina it will give a reaction provided the circuit is intact through the primary centers but will not react if they or the optic tract is involved.

Involvement of the primary optic centers usually is associated with other neurologic changes which help localize the disease.

Lesions behind the primary optic centers usually are incomplete irregular homonomous hemianopsias but may enlarge until they are complete. The breadth of radiation makes it unlikely that one lesion can destroy it all. The macular vision is usually uninvolved whereas in lesions of the tract it is unsually divided also homolaterally.

In hysteria although the field possibilities are only limited by the imagination of the patient, three types of changes are especially characteristic, concentric contraction with or without central amblyopia, tubular fields, or reversal of color fields. In differentiating hysteria from malingering, the hysteric patient may be relieved by suggestive therapeutics but nothing short of detection of fraud will make a malingerer change his story. Most characteristic of the hysteric or malingerer's field is the circular shape of the field and a field for colors about equal to the form fields.

Tubular fields, obtained when the same size field is obtained at any distance from the screen instead of varying with the visual angle subtended, are found only in hysteria or malingering.

In a paper of this character brevity necessitates bare mention of the high points of interest. Many conditions in which fields give important information have been left out altogether. Most of my material and some of the wording has been lifted intact from Dr. Luther Peters' popular text, *Principles and Practice of Perimetry*, to which I give full credit.

New York State Program for Syphilis Control

In this progress report on the New York State syphilis control program, Edward S. Godfrey, Jr., Albany, N. Y. (Journal A. M. A. March 6 1937), places emphasis on notification and the provisions of adequate diagnostic and treatment facilities. These two phases of the program must be developed first, together with facilities for returning delinquent infectious cases to treatment. By assisting the localities in which syphilis is most prevalent, namely, large cities, and by augmenting district staffs, it is hoped to raise the quality of treatment and to provide really adequate follow-up service. As times goes on it is believed that the problem will become less complex and that case and contact investigation can be more generally and effectively carried on. As had been said on other occasions syphilis control presents a real challenge to physicians.

Congenital Pneumonia: A Case Report

P. N. CHARBONNET, M.D. AND E. O. JOHNSON, M.D.
TULSA

Pneumonia of the newborn or congenital pneumonia refers only to newborns that already have evidence of pneumonia at the time of delivery and not to those cases that contract pneumonia after birth. These babies are born with pneumonia.

Since its recognition as a definite entity it has been found to be of frequent enough occurrence that it should be called to the attention of all those specializing in obstetrics that have not already listed it in their differential diagnosis of cyanosis of the newborn, as well as the general practitioner who has much obstetrics to do by necessity. Warwick[1] studied forty-three cases of pneumonia of newborn and concluded that twenty-four (55.7 per cent) must have started developing pneumonia in utero. Congenital pneumonia was found in one-half (fifty per cent) of the cases of stillborn and newborn children that showed no other cause of fatality by Koldor.[2] Johnson and Meyer[3] found ninety-seven cases of pneumonia in five hundred autopsies of the newborn. Previous to its recognition, undoubtedly consulting pediatricians and obstetricians have mistakenly placed many of the congenital pneumonia deaths in the category of obstetrical accidents such as tentorial tears, cerebral hemorrhage, etc., thereby placing much of the blame for the stillbirth on the already distraught attending obstetrician. If autopsies could be obtained more frequently on all stillbirths much information might be obtained regarding congenital pneumonia; also if the etiology of the stillbirth remains unexplained, the patient has to overcome a great mental hazard in her succeeding pregnancy, fearing that she may have done something or failed to do something to cause the stillbirth and wondering if the next one will be the same.

The etiology of congenital pneumonia is not entirely known but there are two predominating theories. The infection theory attributes the pneumonia to bacterial invasion of the uterus after the rupture of the membranes, or a transmission of bacteria through the placenta and umbilical vessels from the maternal circulation. The aspiration theory attributes the pneumonia to aspiration of the amniotic sac contents by the fetus in utero, or aspiration of other materials in the passage down the birth canal. Lubarsch,[4] Viti,[5] Durante,[6] Menetrier and Touraine,[7] believe the infection to be hematogenous and support the infection theory. We all are aware of the transmission of spirochaeta pallida through the placenta. However, Silbermann,[8] Tingle,[9] Lehman,[10] Johnson,[11] O'Connor,[12] Hook and Katz,[13] Helwig,[14] *et al*, favor the aspiration theory. Farber and Sweet[15] found evidence of amniotic fluid in eighty-eight per cent of the lungs of one hundred twenty-four infants. Warwick[1] points out the possibility of both factors, and Lauche[16] explains these congenital pneumonias on an allergic basis. So much for the theoretical considerations.

What are the signs and symptoms? Clinically these babies present a picture of asphyxia and a problem in resuscitation. The impulse to breathe is present and respiratory movement of the chest wall begins but the cyanosis persists. The cry is weak and sometimes whining in character, not unlike a baby with a central lesion. The physical findings by auscultation and percussion of the chest are not satisfactory enough to make the diagnosis.

The E. and J. Resuscitator and Inhalator when turned on "Resuscitation," with a mask over the face, allows oxygen or the carbon-dioxide oxygen mixture to enter the respiratory passages at a pressure of fourteen millimeters of mercury. If an obstruction in the air passages is met, a rapid "clicking" sound is made by the machine. The use of the E. and J. Resuscitator and Inhalator is of great aid in the diagnosis of congenital pneumonia since a clicking sound denotes an obstruction to the inflow of the gas mixture.

The most efficient aid in diagnosis is an

x-ray of the chest. Without the x-ray it is practically impossible to make the diagnosis. The autopsy findings are characteristic, however.

The lesions are practically always bilateral, but not always with equal involvement of both lungs. Warwick[1] found many cases with patchy dark red colored areas alternating with gray which was well aerated lung tissue. Some cases have been reported where the lungs were uniformly red but not firm enough to be called consolidation. An associated pleuritis is not the usual finding. The microscopic appearance is as varied as the gross. Amniotic sac contents are found in some along with desquamated endothelial cells and red blood cells. The alveoli may look distended or atelectatic. Usually the alveolar walls are thickened with cellular infiltration, especially polymorphonuclear leucocytes, and the architecture of the lung is greatly distorted.

The treatment consists of resuscitation and use of oxygen either by inhalation with a mask or under a tent, elevation of the head and aspiration of mucous from the throat. Such drugs as coramine, adrenalin, atrophine and alpha lobeline seem to be of lesser value but should be employed. The fluid and mineral balance can be maintained by subcutaneous injection.

CASE REPORT

History: The patient is a twenty-four year old, white, secundi gravida, whose first delivery of a normal, 3410 grams, baby was uneventful and was followed by a normal afebrile puerperium. There is no history of any serious illnesses or operations. She had a tonsillectomy in 1934, and has had several teeth extracted.

Her menstruation was normal, every twenty-eight days and duration being four days. The last menstrual period was March 15, 1936, making the estimated date of confinement December 22, 1936. At the time of her first visit, May 16, 1936, she had only slight nausea but no other symptoms of pregnancy.

The physical examination reveals a tall, well developed, eutrophic white female, weight one hundred ten and three-quarters pounds, with a muddy complexion and acne over the face. The eyes, ears and nose are essentially normal. Those teeth present show no cavities or decay. No pyorrhea. The thyroid is not enlarged. The findings in the heart and lungs are within normal limits, blood pressure being 100/80.

Abdomen: Fair musculature with many striae present. No hernias or tenderness. Abdominally the uterus, liver and spleen are not palpable. The pelvic examination shows a slightly relaxed introitus. The cervix is eroded slightly and the uterus enlarged two or three times normal size. The adnexae are negative. Pelvic measurements: I. Cr. 28, I. Sp. 26, I. T. 32, E. C. 22, B. I. 12, D. C. 12. Laboratory tests showed the blood Wasserman negative and urine essentially negative.

Course: Her entire ante-natal course was uneventful. Her blood pressure varied from 100/80 to 138/75. The urine remained free of albumin and sugar. Her total gain in weight from the first visit to delivery was thirty-three pounds in spite of a restriction in the diet. For this reason careful watch was made in the size of the baby.

On December 8, 1936, rectal examination showed the cervix to be dilated about five to six cms. the membranes intact and the head one fingerbreadth above the spines. At this time it was decided the child was approaching four thousand grams and any further delay might yield an oversize baby. Accordingly the patient was sent into the hospital for a medical induction of labor.

The patient entered St. John's Hospital, Tulsa, Oklahoma, for induction the evening of December 8, 1936. One ounce of castor oil, a hot enema and quinine, two doses of five grains each were given in the morning of December 9th. Uterine contractions began at 10 a. m. December 9th. At 10:15 a. m. nembutal, grains three, was given. The labor pains continued, and the head descended gradually, reaching the perineum at twelve noon with the cervix fully dilated. At this time the membranes were ruptured instrumentally, allowing clear normal appearing amniotic fluid to escape. The fetal heart remained regular and strong throughout the entire course of labor. At 12:05 p. m. the patient receiving a few whiffs of chloroform* a normal three thousand eight hundred-gram male

*The patient requested chloroform anaesthesia because she liked it with her first delivery.

infant was born spontaneously in LOA position, without difficulty. The child breathed spontaneously immediately and then stopped. A small amount of mucous was aspirated from the throat and a carbon-dioxide oxygen mixture was given, with good results, but all the cyanosis did not entirely disappear. The cord dressing and eye medication was completed in the usual manner and the child taken to the nursery. The placenta separated spontaneously and was expressed from the vagina without difficulty. The patient was awake when the placenta was expressed. Inspection of the cervix and perineum showed them to be intact. Only a small amount of blood was lost and pituitrin, one cc., was given intramuscularly, which contracted the uterus well.

The child was apparently in fair condition until one hour after delivery when the nurse noticed extreme cyanosis. Aspiration of the throat and lowering of the head failed to relieve this condition. The child had a whining cry. Ten cc. of maternal blood was given intramuscularly in both hips and while oxygen was given, the color remained fairly normal. The Drinker Respirator was tried but spasmodic attempts at breathing irrespective of the rhythm of the respirator made this obviously impractical. The E. and J. Resuscitator and Inhalator apparatus was tried and a rapid clicking resulted, showing an obstruction in the respiratory tract. Finally receiving pure oxygen under a tent with the head elevated, the child seemed to maintain a fairly normal color for a while. Adrenalin and coramine were used later but the infant grew progressively worse, expiring twenty-three hours after birth.

The autopsy findings were striking. No abnormalities were found except in the lungs. Both lungs in their entirety were red in color, solid with no air spaces. Grossly and on the cut surface a piece of the lung could not be differentiated from a piece of liver, presenting a picture of a lung in the state of red hepatization. Microscopically the architecture of the alveoli could not be discerned. There was much cellular infiltration of the alveolar walls but no evidence of amniotic sac contents in the bronchioles or alveoli. Bacteriological studies of the nasal and upper respiratory secretions at the autopsy showed a mixed culture with no predominating organism. The pathological diagnosis was multilobular pneumonia.

The puerperium was uneventful and there was no clinical evidence of an intra-uterine infection, or an infection elsewhere in the mother's body. The highest temperature being 99^2 on the same day following delivery; all previous hospital temperatures having been normal. On the third post-partum day at the time of the greatest engorgement of the breasts, the temperature reached 98^8 but was normal thereafter. The lochia remained normal in color, odor, and amount. The patient was discharged from the hospital on the tenth post-partum day.

This case is difficult to explain from the standpoint of either of the theories of infection or aspiration. From the academic standpoint we should have liked to have had intra-uterine cultures from the uterus immediately following delivery and about the third day post-partum; also a blood culture from the mother and umbilical cord at the time of delivery might have been enlightening even though the bacteriological studies of the nasal tract of the baby at the autopsy were negative. It is interesting to note that this patient had five to six centimeters dilatation of the cervix before labor was induced. No evidence of aspiration of amniotic sac contents was found in the lung sections. Because the mother showed no clinical evidence of infection and because no evidence of aspiration of foreign material was seen in the lungs we are inclined to look to a physiological basis for the etiology in this case. We have never seen a case so far advanced, nor have we been able to find any report in the literature describing such advanced pneumonia in the newborn. Dr. I. A. Nelson calls attention to the possibility that the pathological picture of the lungs might have been greatly influenced by the vigorous oxygen therapy employed.

CONCLUSIONS

1. Congenital pneumonia occurs more frequently than is commonly believed and should be included in the differential diagnosis of cyanosis of the newborn.

2. Autopsies should be done on all still births and infants dying soon after birth.
3. A new diagnostic aid which has not been described as such, is afforded by the E. and J. Resuscitator and Inhalator.
4. A case of congenital pneumonia is reported.

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The Physiological Period of Relative Sterility and Fertility in Women*

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This subject, the physiological period of relative sterility and fertility in women, of such interest to the laity, should be to us, one of scientific and practical interest. Medical problems call forth that innate curiosity in man, challenging our best efforts, often resisting our scientific attacks, to remain, at least for some time, unsolved—unexplained. Practically, regardless of our personal feelings toward the much discussed problem of birth control, we are all too often faced with this particular question: should it be practiced and if so, how? It seems, especially in the past we have stood too much on our inalienable rights as American citizens, by evading the question, or refusing an answer. And as a consequence literature and devices put out by commercial interests, with no scientific background, caring even less for the one thing the medical profession upholds, namely, happiness and health of their fellow man, are available in any type retail store . . . yes . . . even available through the house-to-house canvasser.

The problem, therefore, is an interesting one—we may say that it has a humane aspect—yes even one of economic value. If we can define those days of potential fertility, then we can advise that time best fitted for conception in previous sterile couples; we can advise those days fertile, so as to place conception at the time of year most desirable for the health sake of the mother and infant, and can further advise as to the control of the size of the family with no harm to the aesthetic, physical or moral being—truly an accomplishment.

The problem is not new and in answering the criticism of Fraenkel, that should this theory be fact, then long ago it would have been known by lay people, one has only to observe the history of the Hebrews. It is a religious tenet among the orthodox Jews that a woman is unclean for fourteen days after the beginning of her menses and at this time, it is unlawful to have sexual relations. The resumption of relations, therefore, occurred just at the time of ovulation or the fertile period, and to this may be ascribed the prolific character of the Jewish race. Capellman in 1883 was probably the first writer to suggest the possibility of a "safe period" in the cycle, although more recent knowledge has shown his recommendations to be

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quite incorrect. Possibly he drew a parallell between the rutting, oestrus or "heat" period in animals and the menstrual period in women. Diametrically these are opposed—the "heat" period in animals is their ovulation, the time when they accept the mate with resultant pregnancy, and if one could make comparison, it would be at the ovulation time in women—not the menstrual time. Naturally, advice followed in which women felt their fertile time was during the menses, their sterile time at ovulation, and since failure rewarded their acceptance of this, is it any wonder that the widespread belief followed, that at no time in the menstrual cycle is a woman sterile.

Perhaps it would be well to speak of the menstrual cycle. Beard states that menstruation is an abortion of a decidua prepared for an egg which was not fertilized. It is unquestionably the non-fertile reproduction or sexual cycle in life, occurring in all primates and to some extent in some sub-primates. We find in many animals that there is a combined menstrual and estrum cycle, the estrum period being absent in the human female. So we may say without fear of contradiction that menstruation occurs as the result of the failure of an ovum to be fertilized. Although menstruation is an extremely complicated process, we can state that it is the result of an exciting factor or hormone present in the pituitary gland, affecting the ovary and endometrium. Generally speaking, we find this cycle to follow a fairly definite course, at least its variation to be at most a few days in the average normal healthy adult female.

Returning to the consideration of our subject, it would seem that the solution of this question depends in main upon three factors:

1. The time and duration of fertilizability of the ovum.
2. The duration of the impregnating ability of the sperm, or the duration of fertility in the sperm in the female genitalia.
3. The determination of the time of ovulation.

As to the fertilizing ability of the spermatozoa, Ogino states that it cannot live longer than three days, deducing from a series of known time of cohabitations, that all resultant pregnancies, save one, were in a time period within three days preceding ovulation, whereas in thirty cohabitations between the sixth and tenth days before ovulation, resulted in no pregnancies. Knaus in tests on mammals found the spermatozoa to lose their impregnation ability at the latest, after forty-eight hours, when placed into the female genital organs. He feels that the movement ability of spermatozoa does not signify impregnation ability. In return, Fraenkel and Muernberger found living spermatozoa in normal tubes as late as fifteen days after the latter's cohabitation. Nothing is said as to their impregnating ability by these authors.

Knaus states that spermatozoa do not preserve their power of fecundation longer than two days. Monech and Seguy find that the vaginal acidity is not an important factor in influencing the life of the sperm, but believe that the body temperature alone will kill all sperm within twenty-four hours. Anderson tends to agree somewhat with Ogino in that seventy-two hours is the maximum time in which a sperm may live.

It has been expressed in the past very wittily, perhaps truthfully: "The presence of sperm in the female genital tract two weeks after alleged intercourse is no longer a scientific question but a moral issue."

As to the time duration of the fertilizability of the ovum, we meet with some slight divergence of opinion. Knaus, in an early review of his work, stated there is no definite information, but later added that it could be observed directly, by noting the result of coitus before and coitus after ovulation. He states that some few hours after ovulation, there is formed around the ovum a protein membrane, gradually becoming thicker, which in a short time, probably a few hours, prevents the entrance of the spermotozoa. He further holds that there is a ten-day wandering of the ovum, before implantation, and therefore, even should conception take place, it would by necessity be forced to be not later than the seventeenth day or the eighteenth day of the menstrual cycle, otherwise the beginning hemorrhage of menses would preclude any implantation in the endometrium of the uterus. Novak

agrees, too, that the ovum in general have the power of fertilizability a matter of one or two days. Mellendorf and Grosser state that the ten day wandering period is problematical and that there may be a more rapid implantation.

In general, though, we find that most unbiased authors are agreed within at least a few hours as to the life of the ovum, taking into consideration that this "life" means its power of being fertilized.

In main, therefore, the determination of the time of ovulation seems to be the characteristic "fork in the road" in that:

1. No time relation exists between ovulation and menstruation.
2. Ovulation occurs at stated intervals in a menstrual cycle.

It would seem to me that when this question is answered thoroughly and convincingly, then much controversy will have ended in regard to this medical problem.

There is no question that the time of ovulation is important to determine the interpretation for normal menstruation, for the estimation of the duration of gestation. Ogino, as the result of comparative animal experimentation together with one hundred eighteen laparotomied cases, in which both ovaries were examined for matured follicles, ruptured follicles and corpora lutea concludes that ovulation or the rupture of the Graafian follicles lies in a five-day period between the twelfth and sixteenth day before the next expected menstruation.

Considering the order in all manifestations of nature, realizing the fact that menses occur with practical regularity, it would seem that two processes so intimately related should bear a definite relation with each other. In other words, menstruation being the result of failure of fertilization, following the death of the ovum, it would seem inconstant in nature to have menstruation follow any variable time as the result of this phenomenon.

Knaus, in a series of interesting experiments, about seventy in number, reaches much the same conclusion as Ogino. He found that normally in the non-pregnant uterus, there is a rhythmic contraction, which upon the injection of the extract of the posterior lobe of the pituitary, responds with an increase of the time and frequency of movements. In order to record such changes, a special apparatus was constructed similar to one used for uterosalpingography, the mercury manometer, by means of its connection in the cervix to a uterus filled with oil, transferring and recording such variations upon the paper of a kymographion in the form of curves. He found the uterus is refractory to the action of pituitrin, when corpus luteum is present, and this was noticeable as soon as twenty-four hours after ovulation, the maximum time being forty-eight hours. Thus by daily careful examination he found on the day that there were shown no reaction on the kymographion from the injection of the pituitary, that day, the corpus luteum was formed, having been preceded by ovulation not over forty-eight hours. He concludes that regularly menstruating women ovulate on the fourteenth to the sixteenth day of the menstrual cycle. He states quite definitely that in the regular twenty-eight day cycle that the time of conception can absolutely be determined and adds further that the idea that women can conceive on any day of the menses is due to unreliable statements, irregular periods which in themselves mean irregular ovulation, and therefore an irregularity in the estimated time of pregnancy. He is agreed that lactations, starvation, great physical strain, changes in climate, chronic diseases and disturbances of metabolism are apt to inhibit ovarian function; that is, break the regularity of the menstrual cycle, hence of ovulation and a result do away with the practical applicability of this rule. He further arrived at this period of ovulation by watching the more or less indefinite signs of ovulation, so-called middle pains, by histological studies of the corpora lutea, the mucous membrane of the uterus and roentgen castration during the various stages of the menstrual cycle. He found in animal study that cows have a twenty-one day estrus yet can only be fertilized during the first forty-one hours. He says that after ovulation due to the resultant formation of corpus luteum, the female organism is sterilized by its own corpus luteum, it, in itself prohibiting any further rupture of follicles. In a more recent article following further observation and study, his

opinion remains unchanged, agreeing with Ogino, except to state that this worker extends a period of conception capacity too long, thereby lessening the period of sterility more than is necessary.

Similar studies undertaken by Parkes in England, Spiegel in Germany, have shown a definite relationship between the termination of ovulation and conception.

Whittenbeck, in a few reported cases, seriously questions the significance of corpus luteum for the suppression of the uterine contractions, and consequently leads to a doubt as to the dominating position of the corpus luteum for the suppression of the uterine contractions, and consequently leads to a doubt as to the dominating position of the corpus luteum. He bases this criticism on an exception in one case out of thirty-one cases which, according to his critics, was shown to be pathologic in nature. He denies the findings of Knaus, in that he states that ovulation is not an exact time process in relation to menstruation, in that among many factors, nervous stimulation causing hyperemia may bring about a premature ovulation. He further shows that the uterine reaction to pituitrin, posterior extract of Knaus is untenable, in that this has no particular connection with ovulation, since a corpus luteum can even form without an unruptured follicle. Disagreeing with Knaus, he states the ten day wandering period of the ovum is yet to be proved. Knaus in his rebuttal criticism notes that Wittenbeck examined his cases histologically, naturally, this not showing whether there is function or not, the functional behavior being the criteria.

Fraenkel, in years past also denies this period of physiological sterility, saying that should such have been the case, that long ago would it have been known by lay people. He adds that ovulation and menstruation are not synchronous, yet a certain time relation exists. He feels that ovulation is influenced by many outside influences, as sexual excitement, etc. Knaus in his discussion of this argument states that it would be very difficult from a practical standpoint to deduce from clinical trial the value of the experimentation as it would have taken at least six years comparing the value of one cohabitation which would be necessary in order to prove by actual usage the value of this theory. Therefore, he adds that biological investigation, as well as clinical observation, must be necessary for this study.

Hartman of Baltimore, found that ovulation in the human and monkey may occur between the days nine and eighteen, counting the beginning of the flow as day one, but says that ovulation usually takes place near the mid-interval between the two menstrual periods, that is, about day fourteen.

Crosser, correlating experiments on man and mammals, decides with Knaus that the normal viable life of the ovum is only a few hours, but feels that coitus has a great deal to do with ovulation, granting at the same time that there is a spontaneous ovulation period about mid-way between the menstrual cycles. He has shown this, unfortunately, by observation of rabbits, their reaction being somewhat questionable compared with that of the human being. Yet he has found ten twenty-four hour embryos conceived between the second and tenth days of the cycle, ten twenty-four hour embryos conceived between the eighteenth and twenty-fourth days of the cycle, and only four conceived at the time as worked out by Ogino and Knaus.

Novak grants the optimal conception period is in the span that normally embraces most ovulation, but is somewhat dubious in accepting this as being the facts in each pregnancy, as he feels that other factors may influence the ovulation time.

Riebold finds that over a period of some years that most menses differ. He feels that the interval between menses may be quite irregular, yet in considering the number of menses over a period of one year, there will be found a compensation, resulting in the average number of menses within the year to be approximately the same in number. He feels that the subjective and objective signs of ovulation are of much greater value in the determination of sterility and fertility than would the dogmatic statements of Ogino and Knaus, considered alone.

Kurzrok feels that many cases of sterility are due to failure of ovulation. He discusses the usual symptoms of ovulation in particular mentioning the inter-men-

strual pain or "mittelschmerz," which he states is due to the great distension of the follicle preceding rupture, and the intermenstrual spotting, which is somewhat uncommon and is probably due to a change from the proliferative to the premenstrual changes in the endometrium itself. Kurzrok *et al* add their own method to the determination of ovulation, that is, the sudden appearance of Prolan A (follicle stimulation hormone) in the urine of non-pregnant women, as determined by the Zondek method. They feel that ovulation occurs within twenty-four hours after the excretion of Prolan A, accepting naturally that the condition of the ovary is normal as far as its function is concerned.

C. W. Anderson offers a quite ingenious method of describing the symptoms of ovulation, which he adds are often mild in character. Palmer in 1892, first mentioned some of these symptoms, thinking them due to an oophoritis or a peri-oophoritis, resulting in many unnecessary operative procedures. Keeping in mind that the ovary receives its nerve supply from the tenth dorsal nerve, Anderson states that many times the symptoms of ovulation are interpreted as gas on the stomach as the pain is high, above the level of the umbilicus.

In the opinion of J. Seguy and H. Simonnet, the signs of ovulation in women are much as those above mentioned save with the addition of a more outward and more readily detected sign, in the appearance of a glossy and extremely fluid secretion in the cervical canal, this secretion rendering the cervix permeable to spermatozoa.

The difficulty that at once suggests itself as to the application of the rule in women with cycle other than the twenty-eight day type. For practical purposes it would seem that one should consider carefully the menstrual cycle of this woman in question for a period of about twelve months, figuring that time on the basis of the shortest period and that of the longest period, attempting at all times to advise the woman as to the symptoms of ovulation.

SUMMARY

In the use of this method, one has only to follow the Latz formula as given below. In itself it seems to be self-explanatory. Should there be a reasonable variation in the menstrual cycle, one has only to list the fertile nearest the previous menstruation in the shortest interval, and the fertile as listed nearest the longest menstrual period, the combined fertile days being that time of fertility in the individual.

I make a further attempt to teach the individual woman her signs of ovulation, when to expect them and for her to make a careful note of those symptoms as well as the date of each menstruation.

1. I feel that this period of fertility and sterility in women should occupy a definite place in the practice of medicine.
2. For all practical purposes, I believe that this theory is sound as shown by many careful observations as well as my own experience.

LATZ FORMULA

	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
21	M	0	0	0	0	†	0	0	0			M									
22	M		0	0	0	0	†	0	0	0		M									
23	M			0	0	0	0	†	0	0	0		M								
24	M				0	0	0	0	†	0	0	0		M							
25	M					0	0	0	0	†	0	0		M							
26	M						0	0	0	†	0	0	0		M						
27	M							0	0	†	0	0	0		M						
28	M								0	0	†	0	0	0		M					
29	M									0	0	†	0	0	0		M				
30	M								0	0	0	†	0	0		M					
31	M									0	0	†	0	0	0		M				
32	M								0	0	0	†	0	0		M					
33	M									0	0	†	0	0	0		M				
34	M								0	0	0	†	0	0		M					
35	M									0	0	†	0	0	0		M				
36	M								0	0	0	†	0	0		M					
37	M									0	0	†	0	0	0		M				
38	M								0	0	0	†	0	0		M					
39	M									0	0	†	0	0	0		M				
40	M									0	0	0	†	0	0		M				

M—Menstruation †—Ovulation 0—Fertile Days

Supravaginal Hysterectomy vs. Total Hysterectomy*

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In selecting a type of hysterectomy, we must consider one suitable for safety. The mortality and morbidity must be low and the immediate cause of the trouble removed, as near as possible. The additional risk of total hysterectomy surpasses the incidence of carcinoma developing in the cervical stump.

Most hysterectomies are done for fibromyomata, with an associated normal cervix and many of them done by the occasional operator. The supravaginal technique offers a wider margin of safety. It is a satisfactory operation. The blood loss is minimum and easily controlled, the two uterines being the main blood supply. Trauma to surrounding organs is unnecessary; these being the bladder, vagina, rectum and pelvic peritoneum, which are always in the visual and operative field. The integrity of the vagina is maintained by the cervical stump. Its presence and anchorage of round ligaments maintain the interpelvic support, prevent herniation and produce a comfortable pelvis.

Infection also plays an important part. In supravaginal cases we are outside the infected field. It is not necessary to suture through the cervix. A line of continuous sutures all around (button-hole fashion) closes it.

A report of R. L. Pearce, last year, reporting one thousand nine hundred cases of hysterectomy, he found that the evidence of stump cancer, associated with fibroids was less than one-half as great as associated with general pelvic inflammatory diseases. Four hundred ten patients of the fibroid group, four developed a stump carcinoma, or 0.97 per cent. On the other hand, two hundred one cases of general pelvic inflammatory disease, four developed cancer, or evidence of 1.99 per cent.

In these one thousand nine hundred consecutive cases of supravaginal hysterectomy there were thirty-four deaths, a mortality of 1.7 per cent. Out of eight hundred ten of this number reporting and followed from five to twenty-five years, eight cases developed carcinoma of the cervical stump or an incidence of one per cent.

Before supravaginal hysterectomy is done, the cervix should be carefully inspected in all cases. Biopsies should be made when there is the slightest suspicion. Lacerations and erosions should be excised or cauterized. The cervix then inspected twice a year. It has been suggested that following supravaginal cases, the cervix has a reduced blood supply and due to scar tissue formation, that cancer more easily develops, but these views have never been satisfactorily supported. The occurrence of cancer of the stump is controlled and caused by the same unknown factors of the cervix in general. About eighty per cent of stump cancers originate from the squamous epithelium of the vaginal cervix. It is reasonable to believe that a method of prevention of cancer developing here is thorough cauterization. Cauterization in this instance is done as much as desired, approaching a destruction of a large part of it. This method even in early discovered cancers of this and other regions of the body has a result not surpassed by other methods of treatment. Carcinoma developing in the first year after supravaginal hysterectomy, it is reasonable to presume that the cancer was present at the time of operation.

When these stump cancers come for treatment the difficulties of these are many and a previously removed cervix would have solved the problem.

The anatomical distortion produced by previous laporatomy makes these cases undesirable for surgical removal. Radiation then is the treatment of choice, but here due to the previously removed uterus, the anatomy is changed and often a cor-

*Read before the Surgical Section, Annual Meeting, Oklahoma State Medical Association, Oklahoma City, May, 1935.

rect application of radium is difficult and tissues are often over irradiated. On the other hand if there has been extensive carcinoma destruction, leaving a crater into which the radium is packed, a lesser dose is used in order to protect the rectum and bladder. Radium is capable of controlling the disease in and adjacent to the cervix. External irradiation is reserved for extensions beyond the cervix.

In total extirpation of the uterus the bladder must be carefully dissected from the uterus and cervix and this may be difficult if there has been an extensive pelvic inflammation. One who has had the formation of a visico-vaginal or recto-vaginal fistula is skeptical of doing this type of operation again. Inflammatory adhesions usually confine themselves to the posterior part of the pelvis. The uterine arteries must be isolated and ligated separately, for their retraction may produce an uncontrollable hemorrhage. Sepsis complicates many of the total removal cases. The vagina cannot be sterilized before operation and it must be entered in this type of operation. Many patients have very deep pelves and associated large fibroids or extensive pelvic inflammatory conditions make it a difficult procedure. The low incidence of stump carcinoma does not justify the additional risk of total extirpation.

Cases of large fibroids or cases with chronic enlarged tubes and dense peritoneal adhesions present a condition for operation which demands conservation of time shock and loss of blood. These cases usually are subjected to a supravaginal technique. It is comparatively easy and quickly done.

Total hysterectomy cases are carefully selected. The uterus is not too large, there is little pelvic pathology and on finding these conditions the technique is carried out. But on entering the abdomen and things do not look easy and favorable, there is a right about face and a return to the safe and rapid supravaginal amputation. Should all total hysterectomy cases be carried to completion as originally planned the mortality would be much higher. It is the contention of writers that a greater number of women develop symptoms of the menopause at an early age after hysterectomy and ovarian conservation than those not operated. In one hundred ninety-seven cases of both types of operation, the occurrence of menopausal symptoms with or without ovarian conservation, the percentage was the same. There is a difference in the onset of symptoms. The average time of onset is considerably delayed in the supravaginal hysterectomies. This would suggest some relation between retained uterine tissue and the menopause symptoms. The more cervical or uterine tissue left the more delay in the appearance of the symptoms. There must be an endocrine function in both.

SUMMARY

The only purpose of total hysterectomy is to avoid the possibility of cancer occurring in the stump and an occasional case of a large infected cervix.

It is needless to say and folly to disregard mortality figures to prevent what might happen; and I know of no cancer of the stump occurring where the cervix has been carefully inspected and completely cauterized before operation of supravaginal hysterectomy.

* * *

DISCUSSION

Dr. Baker:

I appreciate this subject so much that I cannot refrain from discussing it a little. The first thing I want to take up is the subject of menopausal symptoms. Keeney has shown in 82.5 per cent of conservatism of the ovaries, at least one ovary, there have been no manifestations as to the menopause symptoms. Dr. Jones mentioned the fact, and I think it is something we all should remember, that we certainly should not remove the ovaries even in patients up in years, especially if there is any length of time before the menopause. These women go through such a severe change that I think it is a serious thing to remove the ovaries. When we remember that there are ninety-seven to ninety-eight per cent of all carcinomas of the uterus developing in the cervix, and we remember that eighty per cent of these carcinomas are in the beginning the squamous cell type, it is a lot better for us because we can see the squamous portion of the cervix on examination. That is better for us and better for the patient, because so many times the glomular type is

overlooked on examination. Unless we are very careful in making the examination in the cervical canal, the cervical cells are overlooked. So we are blessed to that extent, about eighty per cent are the squamous cell type. Dean points out the fact that it is better to do a pan-hysterectomy in cases of men who are doing these things every day. He points out the fact that in carcinoma of the cervix mortality is not as high in his opinion, with cauterization and repair of the cervix, in the hands of the average man. I am frank to admit that my cases of pan-hysterectomy do not do as well as those of sub-total hysterectomy. They run more temperature and run it a little longer. But my end results so far have been just as good. I have had two deaths from hysterectomy, one twenty-five years ago due to hemorrhage, in a multiple, pedunculated fibroid in which the fibroid anteriorly was pushing into the bladder and posteriorly into the rectum. I had shock due to bleeding. I know more about transfusions now, and today I would not have lost that patient. Fifteen years ago I over-operated on one patient. Percy does everything from tonsils to hemorrhoids and apparently gets by with it, but he is a clever operator and he knows how to get by with it. I undertook to do too much. I had a woman suffering with gall stones that had been giving her a lot of trouble. I did a cholecystectomy. She also had a fibroid and had been having menorrhagia, but her hemoglobin and red count were all right. The anesthetist said, "The patient is fine, go ahead." I went ahead and did a hysterectomy, and I had a mortality. In either type, we should not overoperate. I will say, in the average operator, doing hysterectomy once or twice a week, that if the cervix looks normal we can cauterize that cervix if we think it is necessary and do a subtotal hysterectomy without a mortality and with much less discomfort and a more rapid recovery. In the majority of lacerated cervix, we can do a stand-off operation on the cervix and a subtotal hysterectomy, and I believe our end results are much better and our patient gets off the table quicker, with less shock, and the end results are better.

Dr. Horace Reed:

In my experience of something over twenty-five years, I have reached the conclusion that there are about two indications for total hysterectomy. The first is carcinoma of the fundus. Notice, I don't say carcinoma of the cervix, because I don't think a hysterectomy is indicated in that, because you can get equally good results with radium with less mortality. The second indication is a diseased cervix in connection with some condition aside from that which requires hysterectomy. I would say one thing about when it is not indicated, and that is in prolapse of the uterus, particularly after the menopause. If the doctor who does that follows his patient, he finds there is a prolapse of the whole vagina and bladder and rectum. There is a new technique of bringing the broad ligaments down under the bladder; I haven't tried it but in one or two cases. There is a difference in the operation. I formerly got a number of infections in the abdominal incision in trying to do total hysterectomies, and I wonder why I did it. You have got to have your force completely educated as to what not to do. Don't use the same needle in the abdominal wall that was used in the region of the vagina, or any other instrument or your own fingers. It takes meticulous care to prevent getting infections, and if one will watch every step and the instrument nurse understands the dangers of infection, after you once get through it. I have found the amount of temperature is on the average less than the subtotal. In closing the vagina, I don't close it altogether. In this way the drainage is right down the vagina and there is no retention of it anywhere, and the temperature chart shows even less in some of these cases of total hysterectomy. If the cervix is healthy and the operation is for fibroid, I think it is using poor judgment and taking an added unnecessary risk to remove all of the cervix. I have done hysterectomies for twenty-five years and have done the great majority by leaving the cervix. If those patients have developed carcinoma, they have gone to another doctor. I have had to remove a few for endocervicitis or a diseased cervix because of a discharge which was annoying to the patient, and they can be removed through the vagina, or it can be completely destroyed by the cautery. I want to congratulate Dr. Jones for his very sensible discussion in this paper.

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OF THE
Oklahoma State Medical Association

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DR. L. S. WILLOUR.....Editor-in-Chief
McAlester, Oklahoma

DR. T. H. McCARLEY.....Associate Editor
McAlester, Oklahoma

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in The Journal the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the Editor, McAlester Clinic, McAlester, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes of addresses, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

ANNUAL MEETING

In this issue of THE JOURNAL you will find the complete program of the meeting to be held in Tulsa, May 10th, 11th and 12th and it appears to be one of the most attractive programs that the State Medical Association has offered in recent years. Our guest speakers are men of international prominence and as you will notice they are going to discuss timely subjects relative to medical organization and medical sociology, which are of intense professional interest. No one can speak better along the line of medical organization than Dr. Olin West, Secretary of the American Medical Association; no one is in better position to discuss sociological subjects than Surgeon General Parran, and Drs. Elliott and Speed are outstanding men in their respective fields.

The Tulsa Committee, headed by Dr. A. W. Pigford, has made special preparation for your entertainment and convenience, and we know from previous experience that the Mayo Hotel has every facility for making your stay in Tulsa comfortable.

The early morning program, beginning at 8 o'clock each morning, will consist of operative and dry clinics at the Tulsa hospitals and as these hospitals have numerous operating rooms everyone who attends will be able to see the operative procedures and will be able to derive much benefit from this sort of instruction.

The members of the House of Delegates will please notice the published report of some of the standing committees and should familiarize themselves with any subjects that will be brought before this body in order that they may intelligently present and discuss them. The members of the House of Delegates should be sufficiently interested to be at the meetings on time so that the work of this body will not be delayed.

The Woman's Auxiliary has prepared a very instructive and entertaining program and the doctors' wives, as usual, can be sure of wonderful hospitality as is always offered by the ladies of our convention city. They are particular fortunate in having the National President, Mrs. Robert E. Fitzgerald, as guest of honor.

With this brief outline of the program calling your attention only to the high points of the meeting, we can be assured of the largest registration that the Oklahoma State Medical Association has ever had. Your attendance will be not only of marked benefit to yourself but will help to carry on the work of organized medicine in Oklahoma.

APPRECIATION

The Oklahoma State Medical Association wishes to express appreciation for the financial assistance given by the Oklahoma City hospitals in helping to carry on the work of the Legislative Committee.

Editorial Notes—Personal and General

DRS. ANSON L. CLARK and D. W. BRANHAM, announce the opening of the CLARK-BRANHAM CLINIC, 514 Medical Arts Building, Oklahoma City. Practice will be limited to urology.

THE AMERICAN MEDICAL GOLFING ASSOCIATION will hold its twenty-third annual tournament at Seaview Country Club, Atlantic City, New Jersey, Monday, June 7, 1937.

The Chairman of the OKLAHOMA REGIONAL FRACTURE COMMITTEE announces a dinner meeting of the Committee in the French Room, Mayo Hotel, Tuesday, May 11th, from 5:30 to 7:30. All members of this committee please take notice and attend, if possible, as this is indeed an important meeting.

News of the County Medical Societies

CARTER County Medical Society met at Hotel Ardmore, Ardmore, Oklahoma, on April 5, at 7:00 p. m. The following subjects were discussed after the dinner:

"Buerger's Disease" with case for demonstration from the Hardy Sanitarium, by Dr. R. C. Sullivan, Ardmore. Discussion opened by Dr. C. A. Johnson, Wilson; Dr. J. M. Holland, Madill; Dr. L. C. Veazey, Ardmore.

"Chronic Alcoholism in the Hebephreniac Stage" by Dr. Gable of Central State Hospital, Norman. Discussion opened by Dr. Rayburn, Norman; Dr. J. C. McNees, Confederate Home Hospital, Ardmore; Dr. Sadler, Soldier's Hospital, Sulphur.

"Neurosis" by Dr. Ben Cooley, Norman. Discussion opened by Dr. R. M. Parish, Ardmore; Dr. Walter Johnson, Ardmore.

RESOLUTIONS

DOCTOR W. F. HAYS

WHEREAS, On February 26th, 1937, our friend and co-worker departed this life by reason of coronary thrombosis;

AND WHEREAS, we the members of the Rogers County Medical Society, knowing his unfailing application to the task at hand after graduation from the University of Kentucky Medical School and one year post-graduate course at the Rush Medical College, Chicago, Illinois;

AND WHEREAS, we being constantly associated with him and being fully aware of his constancy of purpose in his life's work, the relief of suffering, unmindful of his own well being or financial gain;

BE IT RESOLVED, that this society hold of record this expression of deepest sympathy to those from whom he so untimely departed, and a deep feeling of regret in his unfinished work—the relief of the ill, the counsel of the bereaved and the unfailing sympathy of a truly benevolent heart;

Be IT THEREFORE RESOLVED, that a copy of this sentiment be sent his family and set forth in the minutes of our Society, and a copy be sent The Journal of the State Medical Association.

F. A. Anderson, M. D., Chairman,
J. C. Bushyhead, M.D., President,
W. A. Howard, M.D., Secretary.

OBITUARIES

DOCTOR J. W. ECHOLS

Dr. J. W. Echols, a resident of McAlester since 1910, when he came to McAlester to become the first prison physician, under Gov. C. N. Haskell, answered death's summons the night of March 22nd. For fourteen years he served as state's physician, then resigned to care for his private practice. Stricken with paralysis some four years ago, he was unable to continue his work.

Born sixty-two years ago, at Longview, Texas, he was educated in nearby communities and graduated from the Terrill, Texas, high school. His medical training was at Louisville, from which university he returned to Texas to practice at Gainesville until moving to Oklahoma at the time of statehood. A brother, R. E. Echols, was a state senator and later a member of the corporation commission.

For many years Dr. Echols was a member of the board of education in McAlester and was president of the board during the period of the greatest expansion. He was a member of the Masonic lodge, with affiliation in all of the bodies of that fraternity. He also was active in the Presbyterian church, being an elder for many years; superintendent of Sunday school, director of the choir and otherwise serving the early day congregation.

Dr. Echols was a writer on varied topics and several books were published from his pen.

His wife, who was Miss Fay Echols before their marriage at Longview, survives. Three sons, a daughter and two sisters of Dr. Echols also mourn his passing. The sons are Allen Echols of New York City; Jack Echols of Los Angeles; Tom Echols, New York City. The daughter is Mrs. Ralph Peters. His sisters, both residing in McAlester, are Mrs. T. W. Wheatley and Mrs. R. D. McAfee.

Funeral services were conducted March 24th with interment in the Masonic section of Oak Hill cemetery at McAlester.

DOCTOR J. D. WINTER

Dr. J. D. Winter, for eighteen years a resident of this state, passed away March 9th, 1937, in the Veteran's Hospital, Muskogee, of carcinoma of the stomach.

Dr Winter was born in Mississippi fifty-one years ago. He graduated from the University of Tennessee, class of 1909, and practiced at Houlka, Miss., until 1919, removing to Hobart, Oklahoma, where he practiced until 1935 at which time he removed to Wynnewood, Oklahoma, where he practiced until his last illness.

Dr. Winter was a member of the Masonic fraternity, a World War veteran, and held the rank of Major in the Army Reserve.

RECENT DEATHS

(Insufficient data available for obituary.)
Dunham, Howard C., Sulphur, March 15, 1937.
Chambers, M. E., Vinson, March 30, 1937.
Jacobs, J. C., Miami, April 2, 1937.

PROGRAM

Forty-Fifth Annual Session of the Oklahoma State Medical Association at Tulsa, May 10, 11 and 12, 1937

GENERAL INFORMATION

Meeting Place—All meetings will be held in the Mayo Hotel. Telephone, Tulsa, 3-2141.

Registration—Sixteenth Floor, Mayo Hotel. All physicians, except those outside the state and visiting guests, must hold membership receipts for the year 1937 before registering. Please attend to this, if you are not in good standing, by seeing your County Secretary at once.

Woman's Auxiliary—The Woman's Auxiliary of the Oklahoma State Medical Association extends a cordial invitation to the women visitors at the State Meeting in Tulsa, May 10, 11, 12, 1937, to attend the meetings and entertainment provided for women during the meeting. Registration will be held on the Lobby Floor, Mayo Hotel. (Complete program found on pages 133 and 134.)

Guests of Honor—Dr. Charles A. Elliott, Chicago; Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, Washington, D. C.; Dr. J. S. Speed, Campbell Clinic, Memphis, Tenn.; Dr. Olin West, Secretary American Medical Association, Chicago.

Council—The Council will meet at 3:00 p. m. Monday, May 10th, in the Lounge Room, Sixteenth Floor, for the transaction of business affairs and thereafter on call of the President.

House of Delegates—Will meet at 8:00 p. m., Monday, May 10th, Junior Ball Room, Mezzanine Floor, and 8:00 a. m., Tuesday, May 11th, same place.

General Sessions—Will be held, beginning at 10:00 a. m., Tuesday, May 11th, and Wednesday, May 12th, in the Crystal Ball Room, Sixteenth Floor.

COMMITTEES IN CHARGE

A. W. Pigford, General Chairman

Registration and Badges and Finances—D. V. Hudson, Chairman, S. C. Shepard, M. J. Searle.

Entertainment—Marcella Steel Ruprecht, Chairman, Mollie McQuaker, Luvern Hays, Margaret C. Hudson, Bertha Margolin, Mary Edna Sipple, Mable M. Hart.

Hotels—Ned R. Smith, Chairman.

Golf—Silas Murray, Chairman, P. P. Nesbitt, Charles J. Woods.

Scientific Exhibits—W. S. Larrabee, Tulsa, Chairman; W. E. Eastland, Medical Arts Building, Oklahoma City; R. B. Gibson, Ponca City.

Publicity—Charles Harralson, Chairman, Gifford N. Henry, Hugh Perry.

Medical Reserve Corps Dinner—Bernard L. Branley, Chairman.

WOMAN'S AUXILIARY

Registration on Lobby Floor, Mayo Hotel.

Monday, May 10th

12:00 A. M.—Luncheon, Mayo Hotel, for Executive Board Members.

2:00 P. M.—Study Conference, Junior Ball Room, Mezzanine Floor.

Round Table Discussion of Auxiliary Work.

"How the Woman's Auxiliary Can Serve the Medical Profession"—Sam A. McKeel, President-Elect, Oklahoma State Medical Association.

6:30 P. M.—Dinner, Tulsa Club.

Talk—Mrs. Frank Haggard, President of the Woman's Auxiliary to the Southern Medical Association.

Fashion Show.

TUESDAY, MAY 11TH

10:00 A. M.—General Business Session.
Report of Counties.
Talk—GEO. R. OSBORN, President, Oklahoma State Medical Association.

1:30 P. M.—Luncheon, Mayo Hotel.
Talk—MRS. ROBERT E. FITZGERALD, President, Woman's Auxiliary to the American Medical Association.

SECTIONS

All Sections will meet at 1:30 p. m., Tuesday, May 11th, and at the same hour on Wednesday, May 12th. Meeting places will be as follows:

Surgery—Crystal Ball Room, Sixteenth Floor.

Medicine—Junior Ball Room, Mezzanine Floor.

Eye, Ear, Nose and Throat—Main Private Dining Room, Mezzanine Floor.

Obstetrics and Pediatrics—Open Parlor, Mezzanine Floor.

Genito-Urinary Diseases and Syphilology—Lounge Room, Sixteenth Floor.

Dermatology and Radiology—Room B, Mezzanine Floor.

GENERAL SCIENTIFIC SECTION

Clinics held at Tulsa hospitals from 8 to 10 a. m. Clinic schedule for Tuesday found on page 137.

General Scientific Sections will be held, beginning at 10:00 a. m., in the Crystal Ball Room, Sixteenth Floor.

TUESDAY, MAY 11TH

10:00 to 10:40 A. M.—*"Present Status of Fractures of the Neck of the Femur"*—J. S. SPEED, Campbell Clinic, Memphis, Tenn.

10:40 to 11:20 A. M.—*"Management of Cardiovascular Disease"*—CHAS. A. ELLIOTT, Chicago.

11:20 to 12:00 A. M.—*"Organized Medicine"*—OLIN WEST, Secretary, American Medical Association, Chicago.

SECTION ON GENERAL SURGERY

Crystal Ball Room, Sixteenth Floor

Chairman—G. E. STANBRO, Oklahoma City.

Vice-Chairman—S. E. KERNODLE, Oklahoma City.

Secretary—H. M. MCCLURE, Chickasha.

TUESDAY, MAY 11TH
1:30 P. M.

"Pediatric Surgery"—G. E. STANBRO, Oklahoma City.

"Congenital Abnormalities of Face and Mouth"—GEO. KIMBALL, Oklahoma City.

"Pyloric Stenosis"—FRED A. GLASS, Tulsa.

"Appendicitis in Children"—MAURICE J. SEARLE, Tulsa.

"Urology in Children"—E. HALSELL FITE, Muskogee.

SECTION ON GENERAL MEDICINE

Junior Ball Room, Mezzanine Floor.

Chairman—E. H. SHULLER, McAlester.

Vice-Chairman—L. C. MCHENRY, Oklahoma City.

Secretary—ARTHUR H. DAVIS, Tulsa.

TUESDAY, MAY 11TH
1:30 P. M.

"Undulant Fever in General Practice"—E. H. SHULLER, McAlester.

"Undulant Fever in Chronic Arthritis—Their Inter-Relationship"—E. GOLDFAIN, Oklahoma City.

"The Management of Edema"—CHAS. A. ELLIOTT, Chicago.

"The Use of Protamine Insulin"—BERT F. KELTZ, Oklahoma City.

"Food Allergy With Special Reference to the Diagnostic Value to the Leukopenic Index"—RAY M. BALYEAT, Oklahoma City.

"Anemia in General Practice"—H. K. SPEED, JR., Sayre.

SECTION ON EYE, EAR, NOSE AND THROAT

Main Private Dining Room, Mezzanine Floor.

Chairman—H. F. VANDEVER, Enid.

Vice-Chairman—L. C. MCHENRY, Oklahoma City.

Secretary—ARTHUR H. DAVIS, Tulsa.

TUESDAY, MAY 11TH
1:30 P. M.

"Surgical Treatment for Ectropion and

Entropion"—C. B. BARKER, Guthrie. Discussed by J. R. REED, Oklahoma City.

"*Diagnosis of Non-Opaque Foreign Body in the Lung*"—MILLARD F. ARBUCKLE, St. Louis, Mo.

"*Tuberculosis of the Throat, Review of Six Cases*"—HUGH EVANS, Tulsa. Discussed by CHESTER McHENRY, Oklahoma City.

"*Ocular Muscle Imbalance Following Head Injuries*"—D. L. EDWARDS, Tulsa. Discussed by A. S. PIPER, Enid.

"*Diagnosis and Treatment of Maxillary Sinusitis*"—W. L. ALSPACH, Tulsa. Discussed by W. O. SMITH, Tulsa.

"*Mastoid Disease*"—WELBORN W. SANGER, Ponca City. Discussed by ALBERT COOK, Tulsa.

SECTION ON OBSTETRICS AND PEDIATRICS

Open Parlor, Mezzanine Floor.

Chairman—GEO. H. GARRISON, Oklahoma City.

Vice-Chairman—M. B. GLISMANN, Okmulgee.

Secretary—C. W. ARRENDELL, Ponca City.

TUESDAY, MAY 11TH
1:30 P. M.

Chairman's Address—GEO. H. GARRISON, Oklahoma City.

"*Vitamin A Deficiency in Pregnancy Associated with Congenital Defects*"—G. R. RUSSELL, Tulsa. Discussed by W. M. TAYLOR, Oklahoma City.

"*Relative Value of Various Methods of Diphtheria Immunization*"—D. J. UNDERWOOD, Tulsa. Discussed by C. M. POUNDERS, Oklahoma City.

"*Potassium Cyanide Poisoning with Recovery (Case Report)*"—F. S. ETTER, Bartlesville. Discussed by GEORGE FELTS, Oklahoma City.

"*The Use of Hydrochloric Acid in the Treatment of Asthma in Children*"—JOHN R. COTTERAL, Henryetta. Discussed by C. E. BRADLEY, Tulsa.

SECTION ON GENITO-URINARY DISEASES AND SYPHILOLOGY

Lounge Room, Sixteenth Floor.

Chairman—HALSELL FITE, Muskogee.

Vice-Chairman—A. R. RUSSELL, McAlester.

Secretary—C. B. TAYLOR, Oklahoma City.

TUESDAY, MAY 11TH
1:30 P. M.

"*Some Remarks on Prostatic Resection*—E. HALSELL FITE, Muskogee.

"*Low Back Pain in Relation to Urology*"—STANLEY F. WILDMAN, Oklahoma City.

"*Treatment of Urethral Fistula*"—BASIL A. HAYES, Oklahoma City.

"*Considerations of the Varied Symptomatology of the Prostate and Verumontanum*"—ALLEN R. RUSSELL, McAlester.

"*Clinical Study of Renal Tuberculosis*"—DONALD W. BRANHAM, Oklahoma City.

"*Further Experience with Prostatic Resection*"—HENRY S. BROWNE, Tulsa.

"*Cardiovascular Syphilis*"—F. REDDING HOOD, Oklahoma City.

SECTION ON DERMATOLOGY AND RADIOLOGY

Room B, Mezzanine Floor.

Chairman — C. P. BONDURANT, Oklahoma City.

Vice-Chairman—JAMES STEVENSON, Tulsa.

Secretary—PAUL B. CHAMPLIN, Enid.

TUESDAY, MAY 11TH
1:30 P. M.

Chairman's Address—"*Clinical Serology of Syphilis*"—C. P. BONDURANT, Oklahoma City.

"*Lymphogranuloma Inguinale*"—J. V. VAN CLEVE, Wichita. Discussion by M. O. NELSON, Tulsa.

"*Infantile Eczema*"—HERVEY A. FOERSTER, Oklahoma City. Discussion by W. A. SHOWMAN, Tulsa.

"*Carcinoma Cervix Uteri*"—RALPH MEYERS, Oklahoma City. Discussion by PAUL B. CHAMPLIN, Enid.

"*Common Diseases of the Nails*"—JOHN H. LAMB, Oklahoma City. Discussion by J. F. CAMPBELL, Muskogee.

"*Radiological Aid in Diagnosis of Pulmonary Disease*"—JOHN HEATLEY, Oklahoma City. Discussion by MORRIS B. LHEVINE, Tulsa.

"*Lichen Planus*"—J. H. STEVENSON, Tulsa. Discussion by CARL BRUNDAGE, Oklahoma City.

GENERAL MEETING

TUESDAY, MAY 11TH
8:00 P. M.

Junior Ball Room, Mezzanine Floor, Mayo Hotel.

A. W. PIGFORD, *General Chairman*, Presiding

Invocation—REV. C. W. KERR, Tulsa.

Vocal Solo—MRS. THERESA FRO GRIMES, Tulsa.

Introduction of Guests—A. W. PIGFORD, Tulsa.

Address of Welcome—DR. T. A. PENNY, Mayor, Tulsa. JAS. STEVENSON, President, Tulsa County Medical Society.

Repsonse—SHADE D. NEELY, Muskogee.

Violin Solo—MRS. G. GARABEDIAN, Tulsa.

Introduction of President-Elect—GEO. R. OSBORN, Tulsa, Retiring President.

President's Address—SAM A. MCKEEL, Ada.

9:30 P. M.

President's Reception and Dance—Crystal Ball Room, Sixteenth Floor, Mayo Hotel.

GENERAL SCIENTIFIC SECTION

Clinics held at Tulsa hospitals from 8 to 10 a. m. Clinic schedule for Wednesday, May 12th, found on page 137.

General Scientific Sections will be held, beginning at 10:00 a. m., in the Crystal Ball Room, Sixteenth Floor.

WEDNESDAY, MAY 12TH

10:00 to 10:40 A. M.—*"Syphilis Control"*—THOMAS PARRAN, U. S. Public Health Service, Washington, D. C.

10:40 to 11:20 A. M.—*"Fractures of the Forearm"*—J. S. SPEED, Memphis, Tenn.

11:20 to 12:00 A. M.—*"Management of Hepatic Disease"*—CHAS. A. ELLIOTT, Chicago.

SECTION ON GENERAL SURGERY

Crystal Ball Room, Sixteenth Floor.

WEDNESDAY, MAY 12TH
1:30 P. M.

"Tumors of Jaw"—JOHN F. BURTON, Oklahoma City.

Election of Officers.

"Procidentia, with Retrocele and Cystocele"—M. E. STOUT, Oklahoma City.

"Ectopic Pregnancy"—H. G. CRAWFORD, Bartlesville.

"Infections of the Hand"—THOMAS LYNCH, Tulsa.

SECTION ON GENERAL MEDICINE

Junior Ball Room, Mezzanine Floor.

WEDNESDAY, MAY 12TH
1:30 P. M.

"Physical Examination in the Normal Individual"—S. C. SHEPARD, Tulsa.

Election of Officers.

"Carcinoma of the Pancreas"—ARTHUR W. WHITE, Oklahoma City.

"A Study of Lobar Pneumonia in the Tulsa Area—SAMUEL R. GOODMAN AND FRANK NELSON, Tulsa.

"Regimental Rationale in the Treatment of Arthritis—WM. K. ISHMAEL, Oklahoma City.

SECTION ON EYE, EAR, NOSE THROAT

Main Private Dining Room, Mezzanine Floor.

WEDNESDAY, MAY 12TH
1:30 P. M.

"Malignancy of Antrum"—MARVIN HENLEY, Tulsa. Discussed by J. C. MACDONALD, Oklahoma City.

Election of Officers.

"Suspenopsia"—CHARLES H. HARALSON, Tulsa. Discussed by F. M. COOPER, Oklahoma City.

"Revamping the So-Called Unattractive Nose"—CURT VON WEDEL, Oklahoma City. Discussed by H. P. PRICE, Tulsa.

"Cross-Cylinder Tests"—CHARLES K. MILLS, McAlester. Discussed by WALTER A. HUBER, Tulsa.

"A Clinical Consideration of Labyrinthitis"—THEODORE G. WAILS, Oklahoma City. Discussed by W. L. BONHAM, Oklahoma City.

"Ocular Malignancies, Report of Two Cases"—W. ALBERT COOK, Tulsa. Discussed by E. S. FERGUSON and LESLIE WESTFALL, both of Oklahoma City.

SECTION ON GENITO-URINARY DISEASES AND SYPHILOLOGY

Lounge Room, Sixteenth Floor.

WEDNESDAY, MAY 12TH
1:30 P. M.

"Anemias of Pregnancy"—J. B. ESKRIDGE, Oklahoma City. Discussed by W. A. DEAN, Tulsa.

Election of Officers.

"Prevalence of Syphilis in Obstetrics Practice"—L. G. NEAL, Ponca City. Discussed by DICK LOWRY, Oklahoma City.

"Placenta Previa, with Discussion of an X-ray Diagnostic Aid"—W. W. WELLS, Oklahoma City. Discussed by H. M. McCLURE, Chickasha.

"Local Anesthesia in Obstetrics"—GERALD ROGERS, Oklahoma City. Discussed by F. D. SINCLAIR, Tulsa.

"Post-Partum Care"—CHAS. ED WHITE, Muskogee. Discussed by E. E. BEECHWOOD, Bartlesville.

"Abortion—A National Health Problem"—GERTRUDE NIELSEN, Oklahoma City. Discussed by PIERRE CHARBONNET, Tulsa.

CLINICS

OPERATIVE CLINIC
Flower Hospital
TUESDAY, MAY 11TH

8:00 A. M.—*Laparotomy*—ROY SMITH.

OPERATIVE CLINIC
Tulsa General Hospital
TUESDAY, MAY 11TH

8:00 A. M.—*Pelvic Sympathectomy for Dysmenorrhea*—B. WARD.

9:00 A. M.—*Hysterectomy*—S. J. BRADFIELD.

OPERATIVE CLINIC
Sisler Hospital
TUESDAY, MAY 11TH

8:00 A. M.—*Stabilization of Foot for Poliomyelitis Deformity.*
Osteomyelitis of Tibia.

OPERATIVE CLINIC
Morningside Hospital
TUESDAY, MAY 11TH

8:00 A. M.—*Cholecystectomy*—A. RAY WILEY.
Intestinal Resection—ROGER ATCHLEY.
Mastoidectomy—JOHN GORRELL.

9:00 A. M.—*Osteomyelitis*—IAN MACKENZIE.
Cataract—ALBERT ROTH.
Cystoscopic Examination—JOE FULCHER.
Tonsillectomy—RURIC SMITH.

DRY CLINIC
St. John's Hospital
TUESDAY, MAY 11TH

8:00 A. M.—*Discussion of Terminal Ileitis*—S. C. SHEPARD.

8:15 A. M.—*Interesting Clinical Aspects in the Treatment of Epidemic Cerebro-spinal Meningitis*—S. GOODMAN, F. J. NELSON.

8:30 A. M.—*Case Presentation of Internal Fixation of Fracture of the Hip*—J. E. McDONALD, F. A. STUART.

9:00 A. M.—*Treatment of Some of the More Common Infections with X-ray Therapy*—L. H. STUART.

DRY CLINIC
Morningside Hospital
TUESDAY, MAY 11TH

8:00 A. M.—*The Function of Uteral Sacroligaments in Uteral Suspension*—L. A. McCOMB.

8:15 A. M.—*Differential Diagnosis of Sinus Infection (Use of Lipiodal)*—C. A. PAVY.

8:30 A. M.—*Use of Radium in Oral Lesions*—RALPH A. McGILL.

8:45 A. M.—*The Management of Breast Malignancies*—A. RAY WILEY.

9:00 A. M.—*The Value of Leukopenic Index in Allergic Diseases.*—E. RANKIN DENNY.

9:15 A. M.—*Foreign Bodies in the Bladder*—JOSEPH FULCHER.

OPERATIVE CLINIC

Flower Hospital

WEDNESDAY, MAY 12TH

8:00 A. M.—*Laparotomy*—L. C. NORTHRUP.

OPERATIVE CLINIC

Tulsa General Hospital

WEDNESDAY, MAY 12TH

8:00 A. M.—*Cholecystostomy*—G. H. MILLER.

9:00 A. M.—*The Legal Aspects of a Surgical Operation (Masculine)*—M. M. HART.

OPERATIVE CLINIC

Sisler Hospital

WEDNESDAY, MAY 12TH

8:00 A. M.—*Albee Spinal Bone Graft. Operative Treatment of Club Foot.*

OPERATIVE CLINIC

Morningside Hospital

WEDNESDAY, MAY 12TH

8:00 A. M.—*Gastro-enterostomy*—MORTIMER HOUSER.

Hysterectomy—HARRY MCGUIRE.

Tonsillectomy—HUGH EVANS.

Cholecystectomy—A. B. CARNEY.

9:00 A. M. — *Thyroidectomy* — JAMES BROGDEN.

"Club Feet"—FRANK STUART.

Cataract—ALBERT COOK.

Phrenicectomy—Roy M. SHEPARD.

Fistulectomy and Hemorrhoidectomy—VICTOR ALLEN.

DRY CLINIC

St. John's Hospital

WEDNESDAY, MAY 12TH

8:00 A. M.—*Cancerous and Precancerous Lesions of the Skin*—W. A. SHOWMAN.

8:30 A. M.—*New Refinements and Developments of Clinical Pathology for the Clinician*—I. A. NELSON.

9:00 A. M.—*Important Factors in Treating Coronary Diseases*—R. C. PIGFORD.

OPERATIVE CLINIC

St. John's Hospital

WEDNESDAY, MAY 12TH

8:00 A. M. — *Prostatic Resection* — MALCOLM MCKELLAR.

Blood Transfusion, Vincent Tube Method—OWEN ROYCE.

Mastectomy—PAUL GROSSHART.

Tonsillectomy—J. C. BRASSWELL.

Caldwell-Luc—A. H. DAVIS.

Advancement Eye Muscle—C. H. HARALSON.

9:00 A. M. — *Gastro-enterostomy* — D. L. GARRETT.

Thyroidectomy—F. A. GLASS.

Submucous Resection—W. O. SMITH.

Plastic Surgery: Eye—D. L. EDWARDS.

Anastamosis: Intestinal—CARL HOTZ.

Appendectomy—C. C. HOKE.

OPERATIVE CLINIC

St. John's Hospital

WEDNESDAY, MAY 12TH

8:00 A. M. — *Prostatic Resection* — H. S. BROWNE.

Cataract Surgery—C. H. HARALSON.

Perineal and Cervical Repair—CARL HOTZ.

Thyroidectomy—C. C. HOKE.

9:00 A. M.—*Presacral Sympathectomy* — D. L. GARRETT.

Herniotomy—F. L. FLACK.

Suspension Uterus—N. S. WHITE.

Skin Graft—F. A. GLASS.

Electro-Surgery of the Cervix—P. N. CHARBONNET.

DRY CLINIC

Morningside Hospital

WEDNESDAY, MAY 12TH

8:00 A. M.—*Blood Dyscrasies*—H. S. NAUHEIM.

8:15 A. M.—*Cyclopropane*—L. C. PRESSON.

8:30 A. M. — *Neurodermatitis* — HARRY GREEN.

8:45 A. M.—*Pneumonia in Infants*—L. HAYS.

9:00 A. M.—*Cholecystectomy, with Special Attention to Common Duct Surgery*—ANDRE B. CARNEY.

9:15 A. M. — *Post-Operative Psychosis* — N. R. SMITH.

THE OKLAHOMA PEDIATRIC SOCIETY

President—BEN H. NICHOLSON, Oklahoma City.

Secretary-Treasurer — HUGH C. GRAHAM, Oklahoma City.

MONDAY, MAY 10TH, AT ADAMS HOTEL

6:30 P. M.—Dinner.

7:30 P. M.—Address by ETHEL DUNHAM, Children's Bureau, Washington, D.C.

8:00 P. M.—Round Table Conference on *"Economic Problems in Pediatrics."* Chairman: A. L. SALOMON, Oklahoma City; Assistants: JULIAN FEILD, Enid; C. W. ARRENDELL, Ponca City; A. A. WALKER, Wewoka; G. R. RUSSELL, Tulsa.

TUESDAY, MAY 11TH, AT MAYO HOTEL

9:00 A. M.—*"Congenital Balloon Cysts of the Lung"*—TOM LOWERY, Oklahoma City. Discussion opened by FRANK LATIMORE, Kinngfisher; J. C. JACOBS, Miami; and RALPH BOWEN, Oklahoma City.

9:30 A. M. — *"Sinusitis in Children"* — HUGH J. EVANS, Tulsa. Discussion opened by D. A. ANGUS, Lawton; CATHERINE BRYDIA, Ada; and J. L. LEHEW, Guthrie.

10:00 A. M.—*The President's Address.*

Business Session—Election of Officers.

10:30 A. M.—*"The Nervous Child"*—CARROLL M. POUNDERS, Oklahoma City. Discussion opened by JOHN R. CALLAWAY, Pauls Valley; C. V. RICE, Muskogee; and W. M. TAYLOR, Oklahoma City.

11:00 A. M.—*"The Treatment of Laryngeal Diphtheria"* — HUGH MONROE, Lindsay. Discussion opened by P. J. DEVANNEY, Sayre; ROY EMANUEL, Chickasha; and DARWIN B. CHILDS, Tulsa.

11:30 A. M.—*"The Foot of the Child"*—J. S. SPEED, Memphis, Tenn.

COMMITTEE REPORTS

These reports are made in compliance with provisions of the Constitution and By-Laws which call for publication of such matter in the issue of The Journal preceding the Annual Session.

1937 Report of Committee on Post-Graduate Medical Teaching

Due to the lack of funds, there have been no post graduate courses given during the past year. Your Committee has believed for some time that, since the courses were discontinued by the University, additional outside funds would be necessary to carry on this work satisfactorily. Upon investigation it was found that certain foundations were giving financial aid to some of the states for post-graduate medical teaching. In one particular state the foundation donated $12,000.00 for one year's instruction, with the stipulation that the State Medical Association and State Board of Health donate an additional $2,000.00 each. The foundation officials do not place any restrictions on how the funds shall be spent, but do insist that the State Medical Association assume complete supervision in the outlining of the program, hiring of personnel, and expenditures of funds.

Your Committee, therefore, wishes to apply to this foundation for funds, and requests the House of Delegates to pass a resolution giving us authority to represent the Association and to vote $2,000.00 as the Association's contribution to the program.

The State Commissioner of Health, Dr. Pearce, has advised us verbally of his desire to cooperate with us in this program.

Respectfully submitted,

Henry H. Turner, Chairman
H. C. Weber
Walter Hardy.

Report of Committee on Control and Study of Cancer

The profession and the lay public has a growing interest in the dissemination of FACTS about cancer. This is our weapon to overcome superstition and fear, based upon false ideas and impressions. Authentic information is the only present means of undermining the "quack cancer cures" which do so much harm. Doctors appreciate certain discouraging features about cancer, but the average physician has little idea of the hopelessness entertained by the average lay individual about cancer. The facts are an illuminating encouragement to most, especially as to early cases.

A subject of such vital interest is necessarily widely discussed and it is our opinion that it is the duty of the profession to provide accurate information in order to prevent the dangerous consequences resulting from the false claims and the erroneous reasoning of certain lay minds.

Your committee endorses all proper means of "factual" education about cancer, provided certain requirements are met. (1) Absolute control by

the medical profession is an essential requisite in any educational campaign about cancer. Only thus can accurate, truthful information be obtained devoid of enthusiastic false statements which eventually destroy the original purpose. (2) The local medical unit (state, district or county) should have absolute control in its own territory, making use of the organization, information, speakers, literature and films of the central organization as they think wise or adaptable in their locality. Your committee has on all occasions demanded these requirements which may explain the somewhat slow but steady progress in Oklahoma.

WOMEN'S FIELD ARMY

Your committee endorses this splendid movement. The American Society for the Control of Cancer, in conjunction with the American Federation of Women's Clubs (2,000,000 members) has launched the Women's Field Army "to build, throughout the country, an enlightened lay group through dissemination of sound, conservative material on the methods of cancer control."

"Each woman who enlists as a recruit will contribute one dollar to the Cancer War Chest—men, too, may support the movement as contributing members. Thus thousands of dollars will be available to carry on vital educational work. Of this total, seven-tenths will be spent where it is raised by the State Executive Committees of the Army. One-tenth will be placed in a contingent fund and the rest will be used by the General Staff in the national office of the American Society for the Control of Cancer for its field work."

The central organization is directed by the American Society for the Control of Cancer, twenty-six of whose twenty-nine directors are prominent doctors. In each state a State Commander is selected by the State Federation of Women's Clubs and she is to complete the organization through the district and local county units. This state women's organization is under the complete direction of the State Executive Committee, which is the cancer committee of the State Medical Association, a provision your committee has required. When organization is completed in Oklahoma a similar control over the local organization will be placed in the hands of the County Medical Societies, a policy your committee has always held in any cancer educational work in a community.

"Non-medical men and women may be useful in pushing the Women's Field Army, BUT THE MEDICAL EDUCATIONAL SPEECHES MUST BE BY PHYSICIANS." It, therefore, falls upon the profession to control the course of the Women's Field Army and also to furnish able speakers and educational films as needed.

This organization offers an excellent opportunity for the medical profession to supply accurate, competent information. As doctors it is our duty to do all that we can, rather than complain about the sensational, horrifying, unsound information that reaches the public through uncontrolled lay channels.

Unfortunately (at the time of writing) no state commander has been selected from the State Federation of Women's Clubs in Oklahoma and there has been no organization in our state. This is due to certain misunderstandings between the central organization and the officers of the State Federation of Women's Clubs, and to no lack of enthusiasm on their part. An appointment should soon be made. However, the organization of the State Women's Field Army will necessarily be slowly built if it is to be carefully done and our state will not be able to share in the present national drive. Your committee recommends organization work during the spring and summer with intensive activity in the fall and winter.

COMMITTEE ACTIVITY

Since our last report, numerous meetings, clinics and lectures have been sponsored by the local county societies. Your committee has always been available for assistance and advice in these undertakings.

We are indebted to the American Society for the Control of Cancer for invaluable assistance. It has furnished literature, films, projection equipment and newspaper releases. This material has been used freely by the county societies and they are urged to continue to take advantage of this opportunity.

RECOMMENDATIONS

1. If the work of the committee is to be done properly, an appropriation should be made for clerical work and small organization expenses. It is recommended that not less than two hundred and fifty dollars be allotted the committee for this purpose. Mr. L. W. Kibler formerly did most of this work through the Public Relations Department of the State University, but he is now employed by the Tennessee Medical Association in their medical extension activity.

2. We feel that this committee should cooperate with the American Society for the Control of Cancer, which is the only sound national organization for the purpose of education about cancer. In this direction, the state chairman of the American Society for the Control of Cancer should be a minority member of this committee.

3. We recommend full cooperation of the profession with the Women's Field Army under the provisions outlined above.

Wendell Long, Chairman
E. S. Lain
Paul Champlin.

Report of the Committee on Industrial Service and Traumatic Surgery

We, the Committee on Industrial Service and Traumatic Surgery, wish to make the following report:

The diversity of opinion relative to the evaluation of percentage of permanent disability in compensable accident cases is a rather deplorable situation. Doctors representing individuals value their percentage of disability very highly, while those representing the respondent evaluate them much lower. This makes rather a farce of many of our hearings before the Industrial Commission and your committee wishes to recommend that those evaluating such permanent disability should adhere to some fixed rule and make these evaluations with some degree of accuracy.

There are at this time texts which make this phase of industrial work much more accurate and certain and these texts should be freely used before testimony is presented to the Industrial Commission.

We wish to commend the Goveronor of the State on the appointment of a regular practicing physician and surgeon as a member of the State Industrial Commission and would recommend that in future appointments the Governor select such members from a list of names presented by the State Medical Association. This recommendation, however, to reflect in no way upon the ability of the present appointee, but we feel it would be

safer if the State Medical Association had something to do with the selection.

The work of the Fracture Committee of the American College of Surgeons in the developing of highway first aid stations is certainly commendable and the establishment of these stations has been taken over by the American Red Cross. The attendants of the stations first receiving instructions in first aid treatment and passing a satisfactory examination before they are certified.

In some counties of Oklahoma this work has been initiated but in many counties nothing has been done along this line and we recommend that an organized effort be made to place first aid stations along the highways where hospitals are not readily accessible. We also recommend that first aid instructions be extended to ambulance drivers, police and fire departments and others apt to come in contact with this class of injuries.

The immediate or first aid treatment of traumatic cases should be emphasized in the programs prepared for County Medical Societies as with the increase in highway traffic many of these cases occur in rural communities and are first treated by the general practitioner and he should be thoroughly conversant with their proper treatment. Especially is this so relative to fractures, head and abdominal injuries.

We would recommend to our successors upon this committee that they set up the machinery for the carrying out of the above suggestions.

Respectfully submitted,

John F. Park, Chairman.
Earl D. McBride
George S. Baxter.

Report of the Committee on Medical Economics

We, the undersigned committee on Medical Economics wish to submit to the honorable president of the State Medical Association the following report:

1. A study of the medical phase of the present unsolved economic situation is a difficult one and requires a great deal of time and considerable financial resource to accomplish definite objectives, hence, your committee has not ventured far into new fields, but will report observations within our state.

2. The increased rate of free-flow money in our economic channels, the evidence of which we see around us daily, will probably lighten the economic worries of the physician within the low income class and enlighten the profession on the true meaning of the present economic disturbances in the medical arts. This hoped for result has, during the past year, showed definite signs and symptoms of being accomplished.

3. The activities of the publicity and legislative committee in promoting the basic science bill are making a definite step to solve certain phases of economic distress.

4. The federal government's effort in this state to establish a low cost fee for those sharing in government bounty was proposed during the year and used in many districts. Your committee has not a reliable and comprehensive report of how this is working.

5. In Oklahoma County during the past year the county society has had a full time salaried secretary who was operating the Medical Service Bureau for the adjustment and collection of fees in the low income groups. And while it has caused our county society dues to be a little higher it impresses most of us as a serviceable work of the society to the community.

6. The contract corporation group that threatened the people and harmony of practice in Oklahoma County has been retreating during the past year, and while they still operate their hospital, they have changed their basic contracts.

7. The committee feels that a word of commendation should be extended to the State Commissioner of Health, Dr. Pearce, for conducting his "Anti-Syphilis" campaign in this state mainly through the County Medical Association, where proper cooperation is given. The committee would further urge that the state society recommend county medical societies to take over this work under Dr. Pearce's plan.

The above are unanimously approved by the committee and signed by the same and hereby respectfully submitted.

J. T. Martin, Chairman
R. M. Shepard
Ben H. Cooley.

Report of the Committee on Public Relations and Legislation

We, the Committee on Public Relations and Legislation, appointed at the Enid meeting in 1936, hereby submit the following report:

We have obtained the services of Mr. Jess B. Harper as an all-time executive secretary, and rented and equipped an office in 601 Ramsey Tower Building, Oklahoma City. He has been on the job since September 1, 1936.

We have caused to be introduced into the legislature a Basic Science Bill, which has passed the Senate by a good majority, and we feel like it will be passed by the House by the time the month of March has passed, and we hope to get a big enough majority in the House to attach the emergency to it.

We have caused to be introduced into the legislature several amendments to the Medical Practice Act that we hope to pass in this legislature. We have also caused to be introduced into the House a Registration Law, requiring all M. D.'s of the state to pay a $2.00 registration fee, the proceeds to be paid into the state treasury to be used to enforce the Medical Practice Act.

The committee has been quite active, and has spent more money by far than has been available out of the regular funds. But we have done the best we could under the conditions and sincerely hope that it will meet with your approval. We will continue to do our duty as we see it until the Tulsa meeting, at which time we will present a more detailed and we hope a more satisfactory report.

Very truly yours,

H. K. Speed, Chairman
C. B. Barker
McLain Rogers.

For Whose Benefit?

Every proposal for change in medicine should be tested with the question "For whose benefit?" Unless the change will help, either directly or indirectly, in the fight against disease and death, it cannot be justified. The fact that it may increase the income of physicians, help pay the interest on hospital investment, or provide salaries for a body of administrators, unless it will also improve medical service, is no justification. This is a simple test, but applied strictly to many of the proposals for medical changes before the public at the present time it would elicit a verdict of condemnation. —Journal A. M. A., February 20, 1937.

ANNUAL REPORT
of the Secretary-Treasurer-Editor
March 1, 1936, to March 31, 1937

TO ALL MEMBERS OF THE OKLAHOMA STATE MEDICAL ASSOCIATION:

In conformity with the Constitution and By-Laws, I hereby submit to the Council and through them to the membership a report of the various transactions of my office during the past thirteen months:

Detailed statements for all financial transactions, duplicate deposit certificates and other business matters I hereby submit for audit by the Council.

MEMBERSHIP: On February 29, 1936, we had 1333 members, and these were increased to 1552 for the year 1935. Our membership at the time of this audit is 1350, which is good indeed considering the increase in the amount of dues.

DEATH OF PHYSICIANS: The list of physicians who have died during the past year will be found in the report of the Committee on Necrology which will be published with the report of the transactions of the House of Delegates.

MEDICAL DEFENSE: The following cases have either been settled, dropped or disposed of in the following manner:

Settled: Comanche County, No. ———
LeFlore County, No. ———
Pittsburg County, No. ———

Pending: Caddo County, No. 9407.
Carter County, No. 16262.
Choctaw County, No. 8644.
Logan County, No. 1693.
Mayes County, No. ———
Pottawatomie County, No. 6064.

In addition to the above the following cases are now pending, the progress and status of which is unknown as they are pending or dormant in the courts:

Blaine County, No. ———
Carter County, No. ———
Craig County, No. ———
Hughes County, No. ———
Payne County, No. ———
Pottawatomie County, No. ———

We have been able in the past year to retain an increase in the amount of national advertising, our Journal receiving the best of service from the Cooperative Medical Advertising Bureau. Some of you may wonder why certain large houses do not patronize The Journal, and it is probably due to the fact that they have no Council Approved products and we cannot accept their advertising. It is well for the individual physician to question the detail man relative to his products if you do not see their advertising in your State Journal. Just ask him if his products are Council Approved.

The Journal during the past year has maintained its usual size and the scientific material has been of the usual high standard. We have continued our abstract department as we feel that is one of the best services we can give our readers. Every subscriber should appreciate the laborious service being rendered by those who furnish our abstracts. The very best material is abstracted and done in a very commendable manner.

The Legislative Committee has been very active during the past year and their report is published in this issue together with a supplementary report, which will be given to the House of Delegates and which will be of great interest.

The Council has been furnished with a schedule of Bills Receivable but it is probably not advisable that they be published.

THE FIRST NATIONAL BANK
McAlester, Oklahoma
April 5th, 1937

Dr. L. S. Willour, Secretary-Treasurer,
Oklahoma State Medical Association,
McAlester, Oklahoma.

Dear Dr. Willour:

This is to certify that according to our records the following accounts reflected a credit balance, subject to check, at the close of business March 31st, 1937, as follows:

Oklahoma State Medical Association:

General Fund	$4,792.60
Medical Defense Fund	1,494.75
Legislative Fund	794.03

It is further certified that the following direct obligations of the Oklahoma State Medical Association were owing to the First National Bank, McAlester, Oklahoma, at the close of business on March 31st, 1937, as follows:

Date of Note	Description of Collateral	Date Due	Amount
Feb. 23, 1937	Unsecured	May 23,1937	$2,000.00
Feb. 12, 1937	3¼% U. S. Treasury Bond of 1944-46 No. 95099K	April 10, 1937	1,000.00
Feb. 18, 1937	3¼% U. S. Treasury Bonds of 1944-46 Nos. 94180L, 94-181A, 2 at $500.00; and 3¼% U. S. Treasury Bonds of 1943-45 Nos. 878J, 879K, 880L, 3 at $1,000.00	April 10, 1937	4,000.00
	TOTAL		$7,000.00

Yours very truly,
J. K. PEMBERTON,
Vice-President and Cashier.

AUDIT REPORT

Oklahoma State Medical Association
Dr. L. S. Willour, Secretary-Treasurer
McAlester, Oklahoma
For Period February 29, 1936, to March 31, 1937
By J. K. Pemberton, McAletser, Oklahoma
April 5th, 1937.

Dr. George R. Osborn, President,
Oklahoma State Medical Association,
Tulsa, Oklahoma.

Dear Dr. Osborn:

Upon request, I have audited the books of account, records and investments of

Dr. L. S. Willour, Secretary-Treasurer,
Oklahoma State Medical Association,
McAlester, Oklahoma,

for the period beginning February 29th, 1936, and ending March 31st, 1937, and submit the following schedules, together with comments and supporting exhibits.

Cash receipts were traced into the bank through a detailed check of items received, against deposit tickets as shown in the files of the bank. Cash expenditures and disbursements were checked against bank records, all vouchers and checks were examined and compared with the original entries; endorsements scrutinized and found to be in order.

In company with Dr. L. S. Willour, Secretary-Treasurer, I have examined the following investments which are kept in a safety deposit box in the First National Bank, McAlester, Oklahoma, which box is registered in the name of the Oklahoma State Medical Association; except at this date the bonds are held by the bank as collateral to a loan totaling $5,000.00 executed by the Oklahoma Medical Association:

GENERAL FUND:

3¼% U. S. Treasury Bonds of 1944-46—

Bond No.	Par Value	
94180L	$ 500.00	
94181A	500.00	
95099K	1,000.00	$2,000.00

MEDICAL DEFENSE FUND:

3¼% U. S. Treasury Bonds of 1943:45—

Bond No.	Par Value	
878J	$1,000.00	
897K	1,000.00	
880L	1,000.00	$3,000.00

All April 15th, 1937, and subsequent coupons are attached to the entire total of $5,000.00 bonds. I find that all coupons clipped from the above bonds during the period covered by this audit, have been properly accounted for in their respective amounts.

The books of the Association are kept on an actual cash receipts and disbursements basis, and for that reason accrued items are not included in the audit, however upon investigation I find no unpaid or accrued accounts payable, all bills having been paid prior to the date of this audit; there are certain accounts receivable owing to the Association and a list or schedule in detail has been prepared showing these accounts and the amounts due, and is attached hereto and made part of the audit.

I find upon examination the following Notes Payable made and owing by the Association:

To the General Fund O. S. M. A.	$4,300.00
To the First National Bank, McAlester, Oklahoma (Unsecured)	2,000.00
To the First National Bank, McAlester, Oklahoma (Secured by the above described $5,000.00 par value U. S. Treasury Bonds)	5,000.00

I further find that proper resolutions were passed authorizing the execution of said borrowings which are therefore in order, and constitute valid and binding obligations of the Oklahoma State Medical Association.

I respectfully submit the following Audit and Report for your information.

J. K. PEMBERTON, Auditor.

* * *

The foregoing statement and following Audit is submitted as my report for the period from February 29th, 1936, to March 31, 1937.

L. S. WILLOUR, Secretary-Treasurer.

CASH RECEIPTS AND DISBURSEMENTS
February 29, 1936, to March 31, 1937

GENERAL FUND:		
Balance		$ 5,404.87
RECEIPTS:		
Advertising	$ 5,742.04	
Memberships	10,045.00	
Transfer from Medical Defense Fund	1,000.00	
Interest Received from U. S. Government Bonds	162.51	
Repayment of Cash Advance at 2-29-36	70.00	
Total Receipts		17,019.55
Total Cash to Account for		$22,424.42
DISBURSEMENTS:		
Dr. L. S. Willour—		
Salary to 4-1-37 at $200.00 per month	$ 2,800.00	
Oltha Shelton—		
Salary to 4-1-37 at $125.00 per month	1,625.00	
Other Office Salaries	25.00	
Social Security Tax	9.75	
Rent	325.00	
Telephone and Telegraph	78.07	
Postage	183.26	
Stationery and Printing	78.84	
Treasurer's Bond and Audit	75.00	
Insurance	8.52	
Printing Journal	7,034.17	
Press Clipping Service	42.00	
Expense Annual Meeting	859.09	
Council and Delegate Expense	411.89	
Post-Graduate Work Expense	134.85	
Medical Defense Expense	100.00	
Legislative Expense	25.24	
Miscellaneous Expense	25.75	
Loan to Public Policy and Public Relations Committee	4,300.00	
Total Disbursements		18,141.43
Balance on Hand March 31, 1937		$ 4,282.99
MEDICAL DEFENSE FUND:		
Balance February 29, 1936		$ 1,093.75
RECEIPTS:		
Fees Collected	$ 1,561.00	1,561.00
Total Cash to Account for		$ 2,654.75
DISBURSEMENTS:		
Transfer to General Fund	$ 1,000.00	
Medical Defense of Members	160.00	
Total Disbursements		1,160.00
Balace on Hand March 31, 1937		$ 1,494.75

CASH ON DEPOSIT

March 31, 1937

First National Bank, McAlester, Oklahoma

GENERAL FUND:			
Balance as per Records			$ 4,282.99
ADD:			
Outstanding Checks:	No.	Amt.	
	3617	4.00	
	3574	1.00	
	4115	4.00	
	4472	3.00	
	4473	439.11	
	4474	52.00	
	44.75	6.50	509.61
Balance as per Bank Statement and Verification Letter			$ 4,792.60
MEDICAL DEFENSE FUND:			
Balance as per Records			$ 1,494.75
OUTSTANDING CHECKS			None
Balance as per Bank Statement and Verification Letter			$ 1,494.75

INCOME AND EXPENDITURES

For Period from February 29, 1936, to March 31, 1937

GENERAL FUND:		
INCOME:		
Advertising	$ 5,742.04	
Memberships	10,045.00	
Interest Received from U. S. Government Bonds	162.51	
Repayment of Advance at 2-29-36	70.00	
Total Income		$16,019.55
EXPENDITURES:		
Salaries: Secretary-Treasurer	2,800.00	
Salaries: Assistant Secretary	1,625.00	
Other Office Salaries	25.00	
Social Security Tax	9.75	
Rent	325.00	
Telephone and Telegraph	78.07	
Postage	183.26	
Stationery and Printing	78.84	
Treasurer's Bond and Audit	75.00	
Insurance	8.52	
Printing Journal	7,034.17	
Press Clipping Service	42.00	
Expense Annual Meeting	859.09	
Council and Delegate Expense	411.89	
Post-Graduate Work Expense	134.85	
Medical Defense Expense	100.00	
Legislative Expense	25.24	
Miscellaneous Expense	25.75	
Total Expenditures		$13,841.43
Excess of Income over Expenditures		$ 2,178.12
MEDICAL DEFENSE FUND:		
INCOME:		
Fees	$ 1,561.00	$ 1,561.00
Total Income		$ 1,561.00
EXPENDITURES:		
Medical Defense of Members	$ 160.00	
Total Expenditures		160.00
Excess of Income over Expenditures		$ 1,401.00

BOOK REVIEWS

A TEXTBOOK OF MEDICINE by Charles Phillips Emmerson, M.D., Research Professor of Medicine, Indiana University. Formerly Associate in Medicine and Medical Resident, Johns Hopkins University; Assistant Professor of Medicine, Cornell University, (Ithaca); Medical Superintendent, Clifton Springs Sanitarium, New York; Professor of Medicine and Dean, Indiana University School of Medicine, Indianapolis, Indiana. Cloth, Price $8.00. J. B. Lippincott Company, Philadelphia.

This book is well indexed and divided into chapters on different symptoms and any subject is easily found. It is easily read and is an excellent book for the general practitioner to have on his desk for immediate use. It is impossible for a book this size to cover in whole all practices and for that reason general treatment is sometimes cut short but most all of the later treatments are mentioned or discussed. The cuts are excellent and it is well worth the reading and will help any busy man in every day practice on most all subjects that come in his general line of work.

HANDBOOK OF ORTHOPAEDIC SURGERY, by Alfred Rives Shands, Jr., B.A., M.D. Associate Professor of Surgery in Charge of Orthopaedic Surgery, Duke University School of Medicine, and Chief of the Orthopaedic Service, Duke Hospital, Durham, North Carolina; Member of the American Orthopaedic Association, The American Academy of Orthopaedic Surgeons, and the International Society of Orthopaedic Surgery. In Collaboration with Richard Beverly Raney, B.A., M.D., Instructor in Orthopaedic Surgery, Duke University School of Medicine. With 169 Illustrations. Price $5.00. The C. V. Mosby Company, St. Louis, 1937.

This book, designated for the student and general practitioner, is very well arranged and the material describes all of the usual orthopaedic conditions. Etiology and symptomatology are covered in such a manner as to give to the student a good working knowledge of the condition. Corrective and operative procedures are outlined sufficiently so that the reader may acquaint himself with the general idea and what may be hoped for in a curative way.

The fact that the subject matter has been reviewed by various teachers should establish this work as a standard text.

"Benzedrine Inhaler" in Sinusitis

Bertolet (Clin . Med. and Surg., 44:25, January, 1937), reports on results obtained in three hundred six cases of sinusitis treated with the vapor of benzyl methyl carbinamine, in the form of "Benzedrine Inhaler."

In the acute and chronic sinusitis group of one hundred twenty-nine cases, seventy per cent obtained excellent results with the use of the vapor not oftener than once an hour; twenty-three per cent had fair results; and seven per cent poor. Best results were obtained with those patients who used the inhaler post-operatively, and least favorable results were observed in those cases where operation was indicated. In the acute rhinitis group, eighty-three per cent showed excellent results, with fourteen per cent fair and three per cent poor.

The author concludes that for the treatment of paranasal sinusitis "Benzedrine Inhaler" offers an efficacious and desirable form of therapy.

ABSTRACTS : REVIEWS : COMMENTS *and* CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

Intramural Formation of Gallstones. By S. W. Moore, M.D., New York. Archives of Surgery, March, 1937.

In a publication entitled "De sedibus et causis morborum," Morganti, in 1761, first described stones within the walls of the gall bladder.

In 1858 Luschka made some studies of the human gall bladder, with particular reference to the glands of the organ. He found some duct-like structures between the gall bladder and the liver, but they did not open into any space. Since that time these structures have been called "true Luschka ducts."

In 1861 Rokitcansky stated that hernia-like diverticula of the mucous membrane are present in the gall bladder sometimes in great numbers, but he thought that they were usually insignificant, with very small openings into the lumen. He thought that explained why the dark colored concretions often found in them appeared to be placed between the layers of the wall of the gall bladder.

According to the author of this article, Aschoff clarified the situation in 1905. Since then the name of Aschoff has been coupled with the name of Rokitansky, and since then, too, this peculiar morphology of the gall bladder has, in its ensemble, been called "Rokitansky-Aschoff sinuses." These sinuses appear to be small out-pouchings in the mucous membrane of the wall of the gall bladder. They apparently form excellent sites for the collection of debris and infectious material. Manifestly, when stones are developed in the wall of the gall bladder the wall is weakened, and that circumstance predisposes to perforation of the gall bladder if an infection should supervene.

The author studied three hundred gall bladders removed at operation. In two hundred thirty-one, or seventy-seven per cent, there were stones in the lumen of the gall bladder, and of these ninety-eight, or forty-two per cent, showed Rokitansky-Aschoff sinuses. In the sixty-nine gall bladders without stones in the lumen only three or four per cent showed the sinuses. It would appear, therefore, that Rokitansky-Aschoff sinuses are nearly always associated with cholelithiasis. In his conclusion, the author says, "The sinuses are the result of cholelithiasis and secondary infection rather than the cause of gallstones."

In the course of the article, the author makes the following comment: "After the formation of a Rokitansky-Aschoff sinus, what may be its course? (1) It may remain stationary. (2) It may produce 'cholecystitis glandularis proliferans.' (3) It may develop into a diverticulum. (4) It may form an abscess and perforate. (5) Stones may form in its interior.

COMMENT: This is a very important and instructive article about a pathological situation that is apparently not any too well understood.

LeRoy Long.

The Decline in the Strength of Catgut After Exposure to Living Tissues. By J. E. Rhoads, M.D., H. F. Hottenstein, M.D., and I. F. Hudson, M.D., Philadelphia. Archives of Surgery, March, 1937, Page 377.

The larger part of this article is a long, tedious, but none the less valuable historical review.

Incidentally, there is an interesting reference to the experiment of Philip Syng Physick, the first professor of surgery in the School of Medicine of the University of Pennsylvania, who was largely responsible for catgut coming into general use in surgery. He carried out experiments, and demonstrated that catgut was absorbable after it had been introduced into the tissues of the body. This work of Physick was done about 1816.

The earlier experiments were concerned particularly with the absorbability of catgut, Physick and Porta being mentioned in that connection. Experiments on the sterilization of catgut were begun by Lister in 1868.

Four main requirements for good surgical catgut are set down by the authors. They are strength, suppleness, sterility and absorbability.

Iodized catgut was introduced by Claudius in 1902. He believed that its absorption was slightly slower than the absorption of catgut prepared with phenol and alcohol.

There is an interesting reference to the experiments of Miyake in 1904. He soaked catgut for twenty-four hours in five per cent solution of an extract of quebracho, which is an Argentine oak very rich in tannic acid. Before his experiment he believed that ordinary catgut, even in the larger sizes, would hold its strength not longer than nine to twelve days. He reported that the catgut soaked in the five per cent solution of the extract of quebracho was found intact in the tissues sixty-five days under aseptic conditions, and about thirty-two days in a septic wound, his experiments being carried out in a dog.

The conclusion of the numerous investigators quoted seemed to be that, under ordinary conditions, the most rapid absorption of catgut takes place in the superficial layers of the skin. There is unanimous conclusion that the absorption and decline in the holding powers are greatly facilitated in the presence of infection.

The authors report that they have carried out many experiments on dogs with particular reference to the effect of tissue fluids upon catgut They conclude that tanned iodized catgut possesses substantially more resistance to the action of tissue fluids than plain or chromic catgut. This is particularly interesting in connection with the experiments of Miyake in which he soaked catgut in a solution of an extract of quebracho, the chief constituent of which is tannic acid.

While the authors agree that infection hastens the absorption of catgut, they report that in their experiments where there happened to be incidental infection the absorption of tanned iodized catgut was not hastened in a pronounced way.

Apparently, it is the conclusion of the authors that where the persistence of tensile strength is of importance it would be well to employ tanned iodized catgut.

COMMENTS

The persistence of the tensile strength of suture material is of extreme importance in connection with reparative and reconstructive surgery of the hidden viscera of the body but particularly of the hollow organs of the abdominal cavity; in connection with the ligation of large blood vessels; in connection with the closure of the abdominal wound. Any constructive experimental work that points a way to the preservation of tensile strength of suture and ligature material is of inestimable value.

There is one fact that has not been considered by the authors and that is that catgut is much more rapidly absorbed in certain individuals than it is in certain other individuals. In other words, it seems pretty clear that the tissue juices of a few individuals digest catgut very much more rapidly than is the case in the average individual. An enlightening article by J. William Hinton, assistant attending surgeon, New York Post-Graduate Hospital, and published in the Archives of Surgery, August, 1936, directs attention to this significant and often unrecognized condition. The title of his article was "Allergy as an Explanation of Dehiscence of a Wound and Incisional Hernia." In that article he calls attention to the striking fact that in the majority of cases of separation of the abdominal wound there are no evidences of infection. In such cases he believes that the separation of the wound that has been closed by tier sutures of catgut is due to the unusual capacity of the tissues of the particular patient to digest catgut prematurely. In that connection, he refers to Erdmann's employment of the term "tissue hunger."

The article of Dr. Hinton was abstracted by the writer and the abstract was published in The Journal of the Oklahoma State Medical Association, September, 1936, page 340. LeRoy Long.

Additional Data on the Treatment of Uterine Bleeding with Snake Venom. By Morris A. Goldberger and Samuel M. Peck, New York. The American Journal of Obstetrics and Gynecology, March, 1937, Page 469.

This is a report upon the clinical results in twenty patients with functional uterine bleeding and an impression obtained by experimentally treating five cases of uterine bleeding due to fibroid with snake venom.

The conclusions of the authors follow:

"1. Moccasin snake venom injections have been used with good results in seventeen of twenty cases of functional uterine bleeding.

"2. The control of bleeding probably results by means of the action of the venom on the uterine capillaries, making these vessels more resistant to hemorrhage.

"3. The method of treatment is offered as a procedure which will control functional uterine bleeding until there is a return to normal menstruation.

"4. Adequate dosage based on clinical symptoms must be determined for each patient.

"Moccasin snake venom has very little effect on uterine bleeding due to fibromyomas."

The method of administration is carefully outlined. They noted a distinct quantitative relationship between the desired clinical effect and the amount of venom given. "In a number of the treated individuals a period of from six months to one year of normal menstruation occurred after the venom therapy has been discontinued."

In certain cases there was a hypersensitivity to the snake venom protein about the tenth day which was characterized by erythematous swelling at the injection site after eight to twelve hours.

There were no general reactions. Desensitization was easily brought about by reducing the subsequent injection.

COMMENT

A great deal of credit is due the members of the gynecological service at Mt. Sinai Hospital in New York for their careful work in studying the use of snake venom in the treatment of functional uterine bleeding. It is the feeling of Dr. Robert Franks on that service that most of the patients with functional uterine bleeding at puberty will return to normal menstruation under proper supportive therapy. It was for this purpose that he encouraged the employment of snake venom in the treatment of such patients in Mt. Sinai Hospital.

It is in such individuals having profuse functional bleeding early in their menstrual lives that snake venom therapy must be carefully considered as a part of the treatment. Wendell Long.

Hematometra Due to Atresia of the Cervix Following Cauterization. By A. L. Henkin, Brooklyn, N. Y. American Journal of Obstetrics and Gynecology, March, 1937.

A case is reported in which cauterization of the cervix was done followed by amenorrhea. There was a closure of the cervical canal with hematometra responsible for a uterus the size of a three months pregnancy. Following operation with the establishment of a new cervical canal the patient menstruated regularly and four months later had a normal size uterus with a patent cervical canal.

Two very pertinent conclusions are drawn from this experience.

"1. Whenever cautery is used in the treatment of chronic cervical diseases, the patient is to be kept under observation to prevent stenosis or complete atresia.

"2. The indiscriminate use of cautery in the treatment of the cervix is not without danger."

The author also speaks briefly of the danger of cauterization in the presence of acute inflammatory lesions. (Though he does not emphasize it, I am sure that he means acute inflammatory lesions of the cervix or pelvis.)

COMMENT

Since cauterization has been universally adopted in the treatment of many chronic inflammatory lesions of the cervix, observations such as this one are extremely valuable. When a cauterization of the cervix has been done, the individual should be kept under observation for at least two months time, not only to prevent atresia but to be sure that there is no stenosis which will subsequently produce additional pathology and symptoms.

It has also become a common practice to treat chronic inflammatory lesions of the cervix by cauterization combined with sub-total supravaginal

hysterectomy in preference to performing total hysterectomy. I have recently seen two patients so treated in whom there was a complete atresia of the external os region and chronic inflammatory cavities of the cervical canal region containing tarry mucoid material. Biopsies from each showed microscopic evidence of chronic inflammation. When combined with sub-total hysterectomy, the symptoms will not be as pronounced as in true hematometra, but chronic inflammatory cervices remain as irritative lesions of the cervix unless these patients are also kept under careful observation for a similar length of time.

This author speaks of the very real danger of cauterization treatment in the presence of any acute pelvic inflammation. It should be added that there are certain dangers in performing a cauterization too near a menstrual period. The preferable time for cauterization treatment is from five to ten days after the completion of an average menstruation.

These precautions do not minimize the advisability and the adaptability of cauterization treatment to selected types of chronic inflammatory lesions of the cervix, where the operator is certain that there is no malignant tissue in the cervix to be treated.

While this article is written concerning a complication of cauterization treatment of the cervix, the same precautions are applicable to the surgical operations upon the cervix for chronic inflammatory lesions. As an example, I have recently operated upon a patient who had a partial amputation of the cervix several years ago in another section of the country. She was a woman of forty with a history of dark blood from the vagina on violent exercise. There was an apparent complete atresia of the os established at previous operation and she had been menstruating through a small opening high in the left vaginal fornix which was apparently produced by sloughing of the suture line at the previous cervical repair. There was a chronic inflammatory cavity within the cervix two inches in diameter which was filled with tarry mucous and purulent material.

It would seem, therefore, quite apparent that the cervix which has been treated by surgical procedures should receive just as careful, if not more careful, post-operative attention for a long enough period to be certain of complete healing and function.

Wendell Long.

Factors of Significance in the Prognosis of Cancer. By Donald C. Balfour. Surgery, March, 1937, Page 472.

This is a report printed in this journal of a paper read by Dr. Balfour at the meeting of the Southern Surgical Association in December, 1936.

Balfour summarized some of his experiences with cancer of the stomach which are significant in the prognosis. In a statistical study of over two thousand one hundred cases of operation for gastric carcinoma, the following facts were obtained: The shorter the histories, the less chance of cure; the larger the tumor, the better the prognosis. A lesion at the pyloric end of the stomach was less amenable to cure than lesions of the body and fundus. There was less chance of permanent cure in cases with lymph node involvement, but after five years, patients with and those without lymph node involvements had practically the same chance of continued existence. Broder's grading showed a definite difference in the life expectancy, the grade four types dying relatively much earlier than those of grade three, two and one, respectively. The higher the gastric acidity, the better the prognosis. Forty-five per cent of cases are operable, but only nineteen per cent of the cases are amenable to some type of operation (resection) which could possibly promise a cure. About thirty per cent of cases that have had extirpation of the growth and regional nodes will have five-year cures. Average life expectancy without palliative or radical operation is five months and with palliative operation (gastro-enterostomy) is six months.

LeRoy D. Long.

Sterilization of the Air in the Operating Room With Radiant Eenrgy. By. Dr. Deryl Hart, Durham, N. C. Surgery, March, 1937, Page 473.

Dr. Hart, who is the professor of surgery at Duke, reported the result of clinical and experimental investigations on the sterilization of the air in the operating room with radiant energy. By culturing the air in the room he found a high degree of contamination. Reports from other men throughout the country who cultured the air in their operating rooms showed similarly a high degree of air contamination. The number of persons in the operating room increases the amount of contamination. Ultraviolet light at distance of five feet practically sterilized contaminated agar plates within a period of sixty seconds for light contamination to five minutes for heavy contamination. The experimental evidence presented by Hart was very convincing. Installation of ultraviolet lights over their operating tables has reduced the incidence of unexplained infections following operation from 5.5 per cent to 0.6 per cent. The method necessitates wearing heavy covers for the heads of all the operating team and protection for the eyes.

LeRoy D. Long.

Acute Perforated Appendicitis. By Dr. Roy D. McClure, Detroit. Surgery, March, 1937, Page 472.

Dr. McClure, who is the surgeon at the Ford Hospital in Detroit, reported a detailed study of two hundred fifty-two consecutive cases of acute perforated appendicitis with peritonitis. The mortality was increased with cathartics and with complications present on admission. McClure emphasized the fact that sixty per cent of the patients had symptoms that were atypical of appendicitis but not signs which were atypical. Generally the objective findings are typical. He does not use the conservative treatment in cases that have developed complications. The mortality in his series was greater the closer the incision approached the midline. He favors the McBurney incision in acute appendicitis. The majority of the discussers of this paper are said to have approved of the use of the McBurney incision in acute appendicitis and they decried the use of the right rectus incision.

LeRoy D. Long.

Surgical Aspects of Acute Cholecystitis. By Dr. George Heuer, New York. Surgery, March, 1937, Page 470.

In a paper read at the Southern Surgical Meeting, December, 1936, Dr. Heuer (who is the professor of surgery at Cornell in New York City) reviewed the records in one thousand five hundred and sixty-five cases taken from Cincinnati General Hospital, the old New York Hospital and the new New York Hospital. He concluded that there was no direct parallelism between the stage of pathology of the inflamed gall bladder and the symptoms which these patients present. His studies showed that gangrene and perforation of the gall

bladder occurred in approximately twenty per cent of the cases of acute cholecystitis. The mortality following perforation of the gall bladder averages approximately forty-six per cent. He presents a series of one hundred sixty three consecutive cases of acute cholecystitis in which operation was done early. In this group, sixteen had perforation on admission. The mortality for the entire series of one hundred fifty-three cases was 3.2 per cent. He concluded that over emphasis has been placed on the danger of operation in the acute stages of cholecystitis, and the mortality is thus shown to be less from immediate than from delayed operation. LeRoy D. Long.

Regional Ileitis. By Dr. John deJ. Pemberton, Rochester, Minn. Surgery, March, 1937, Page 471.

Thirty-nine cases were examined and studied by Dr. Pemberton and Dr. P. W. Brown at the Mayo Clinic. The lesion was most frequently single, was occasionally multiple. It occurred usually in the terminal ileum but occasionally involved other segments of the intestinal tract. Changes in the small intestine which could be detected by x-ray occurred early in the course of the disease. Clinically the cases present the following symptoms: frequently pain, sometimes with nausea, vomiting, and abdominal distention; occasionally diarrhea, loss of weight, anemia, and fever. The etiology is not known. The treatment of choice is a two-stage operation, the preliminary operation consisting of an ileocolostomy, subsequently resection of the diseased segment or segments. Of nine cases of extensive regional enteritis, resection was performed in two and the patients have remained well for one year and eight months, respectively. In the remainder of these cases, only the short-circuiting operation was performed, and the results have not been very encouraging. Of the twenty-seven cases in which the process was localized, in nineteen the patients are well; four are still having trouble; three have died; and one has not been traced. In eight of the twenty-seven cases, a short-circuiting operation was the only operative procedure employed. In three cases in which only the short-circuiting operation was performed, a deficiency syndrome developed. LeRoy D. Long.

PLASTIC SURGERY

Edited by

GEO. H. KIMBALL, M.D., F.A.C.S.
404 Medical Arts Building, Oklahoma City

Neglected and Recurrent Basal Cell Epitheliomas of the Face. Herbert Willy Meyer, M.D., F.A.C.S., New York. S. G. and O., March, 1937.

The author points out that basal cell tumors of the face when seen early and treated radically can be cured.

However the entire lesion must be destroyed at the first operation or else recurrence takes place. The treatment can be effected by x-ray, radium, galvanic-cautery, electro-coagulation or by surgical excision providing all of the lesion is removed.

Lesions which overlie cartilage and bone seem to recur quite often and must later be destroyed by active cautery. Also some tumors are ray resistant and one should learn that if this condition obtains the case should be referred to a trained cancer surgeon specialist. The continuation of ray treatments in these cases obtains unfavorable results.

The author stresses a principal in dealing with recurrent tumors by advising wide excision of the tumors together with the underlying cartilage and bone. The defect left by this radical procedure is to be repaired by a plastic flap sutured to the area.

CONCLUSIONS: These cases of recurrent basal cell epitheliomas of the nose and cheek are reported for the following reasons:

1. It seems best to advise that radical and thorough excision of the basal cell epitheliomas overlying cartilage and bone be done as the best method of treatment and that the underlying cartilage and possibly bone should be removed with the lesion.

2. The primary early lesion may be treated by radium or x-ray if they are used by experts and the dosage so given that the lesion is completely destroyed without damaging the underlying cartilage. If however, recurrence occurs even though x-ray and radium were used by experts the case should be immediately turned over to surgery as the lesion is probably radio-resistant and further radium or x-ray will be of no avail.

3. Surgical excision in recurrent cases must be planned so as completely to surround the lesion on all sides as well as in the depth irrespective of the cartilage or bone that has to be removed.

4. "Temporary ligation" of the external carotid artery by angulation will save a great deal of blood loss during the excision of the lesion and will preserve the full blood supply for healing following reconstruction plastic closure.

5. Gwathmey's colonic ether oil anesthesia makes these lengthy procedures possible and seems to be the ideal anesthesia for these types of cases.

6. The Einhorn duodenal tube introduced into the stomach with an Einhorn introducer at the time of operation, or the introduction of the Levine tube immediately following the operation when the patient can swallow, makes it possible to start fluids and nourishment immediately following operation and will keep the operative field dry.

7. Immediate closure of a large defect after the malignant lesion has been thoroughly removed seems preferable to leaving the wound wide open for observation for months in order to look for recurrence. This seems logical from the economic, psychological, and clinically practical point of view.

Of these four cases, reported in the article, of extensive recurrent epithelioma of the nose or cheek, one case has remained well seven and one-half years since operation, a second case three years since operation, a third case nineteen months and a fourth case fourteen months.

COMMENT: In my experience ray resistant tumors (basal cell type) about the face, eyelids, nose and lips have been best treated by radical excision. In the case of tumors of the face, especially the cheek, I have had no favorable results except where the radical procedure was carried out.

Following excision of some I have covered the defect by split grafts and in others allowed the granulations to develop before applying the graft. I have not used the immediate flap technique as described by the author but it appeals to me as a very practical procedure.

A recent case of sixteen years duration was widely excised by the endotherm knife and apparently is making a complete recovery.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D., F.A.C.S.
717 North Robinson Street, Oklahoma City

Suppurative Arthritis of the Sacro-Iliac Joint. Joseph B. L'Episcopo. Annals of Surgery, CIV, 289, August, 1936.

As in other pyogenic joint infections, a blood borne infection may involve the sacro-iliac joint primarily or this joint may be involved secondarily from a primary focus in the ilium or sacrum adjacent to the joint.

The patient appears acutely ill with a temperature of from one hundred to one hundred four degrees, a rapid pulse, and leukocytosis with an increase in polymorphonuclear neutrophiles. Pain is present in the buttock, in the hip area or over the sacro-iliac joint, and in the lower right or left abdominal quadrant. There is definite tenderness on pressure and percussion over the sacro-iliac joint. In the early stages, the roentgenogram is negative; after three weeks, definite destruction can be demonstrated.

Pus under pressure in the joint follows the path of least resistance; it quickly breaks through the thin anterior sacro-iliac ligament, burrows under the ilacus muscle, and fills the iliac fossa.

Treatment consists of early drainage through the sacro-iliac joint by resecting a block of the ilium over the joint and that part of the sacrum forming the joint, thus permitting the admission of two fingers into the pelvis. The iliac muscle is lifted from behind. Free pus is usually not found until the pelvic cavity is entered. The wound is packed with vaseline gauze and a plaster-of-Paris spica is applied.

Nerve Injury in Fracture of the Pelvis. Conrad R. Lam. Annals of Surgery, CIV, 945, November, 1926.

Six of eighteen patients with fracture of the pelvis, treated at the Henry Ford Hospital during a recent one-year period, presented definite evidence of nerve injury. This experience prompted a study of one hundred consecutive cases which showed that nerve injury was present in nine per cent of the cases, as compared to fourteen cases or 0.74 per cent of one thousand eight hundred eighty-nine cases collected from the English and German literature during the past twenty years.

The nerves involved in the nine cases were as follows: the peroneal component of the sciatic nerve, six cases; the lateral cutaneous femoral nerve, three cases (bilateral in one case); the superior gluteal nerve, one case; and the posterior branches of the first three sacral nerves, one case.

The preponderance of sensory over motor disturbance, the tardy appearance of symptoms, and the spontaneous regeneration, suggest that the trauma is in the form of stretch or contusion of the nerves.

Case reports of the nine cases are presented together with a bibliographic table showing the incidence of nerve injury in the reported series of cases.

Artroplastia de la Cadera. Caso Clinico de Evolucion Atipica. (Arthroplasty of the Hip. A Clinical Case with an Atypical Evolution.) Alberto Inclan. Cirugia Ortopedica y Traumatologia, IV, 109, 1936.

This case is interesting in that the surgical intervention failed and, in spite of it, a notable improvement was obtained, thanks to the extraordinary will power and perseverance of the patient.

The author points out that "static and functional reconstruction surgery of the joints requires, more than any other, the most decided and absolute cooperation of the patient, if it is to achieve its purpose."

"The first contra-indication to arthroplasty is pusillanimity and lack of trust of him who requires it."

The case presented illustrates this. The arthroplasty performed was quite lost by infection of a hematoma, with necrosis, not only of the interposed fascia flaps, but also of the cervical portion of the femur, which had to be removed later on as a sequestrum.

Two years after this second intervention, the patient returned for treatment. He walked with crutches and experienced pain as the femur ascended when he tried to bear weight on the affected leg. An operative reduction of the subluxation of the hip was performed and the hip was immobilized in a plaster spica in about forty degrees of abduction. When the spica was removed, physiotherapy was instituted. However, the contact of the trochanter with the iliac bone caused pain which made walking impossible. After an interval of some months the fourth and last intervention was done, consisting in a bifurcation of the trochanter after the method of Albee, which effected extraordinary improvement in the stability and in the function of the reconstructed hip. The patient now exhibits a motility of about sixty degrees for active as well as passive movements.

INTERNAL MEDICINE

Edited by C. E. Bradley, M.D., Medical Arts Building, Tulsa; Hugh Jeter, M.D., 1200 North Walker, Oklahoma City

By HUGH JETER, M.D., F.A.C.P., A.S.C.P.

Trichinosis, With a Report of Two Cases With Eosinophiles in the Stools. E. A. Baumgartner, M.D., and Albert Cowles, B.S., Newark, N. J. The Journal of Laboratory and Clinical Medicine. Vol. 22, No. 5, February, 1937.

Two cases of trichinosis are herein reported. In this the authors have emphasized the finding of eosinophiles in the stools, an examination which in these cases aided in the diagnosis. The cases are extremely interesting and the suggestion that the finding of eosinophiles in the stool as a diagnostic procedure is also worthy of serious consideration.

This is a timely suggestion. Reports have come from the Public Health Department at Washington indicating that trichinosis is a relatively common disease occurring in twelve to twenty per cent of individuals in different portions of the United States. A survey of autopsy material at the University Hospital and other institutions throughout the United States is being made and will doubtless give us more accurate and complete data on this important subject.

The Mechanism of Anemia. Russel L. Haden, M.D., Cleveland, Ohio. The Journal of Laboratory and Clinical Medicine. Vol. 22, No. 5, February, 1937.

In this the author has in a very beautiful manner discussed and fully illustrated his conception of the mechanism of anemia. It is interesting to

note that he defined anemia as follows: Anemia is a reduction below normal of the capicity of the blood to transport the oxygen necessary for all animal life.

His illustration of the red cells' functioning "cups" on an "endless chain conveyor" is extremely interesting. In this the different size cells and their corresponding capacities are conveyed.

The normal physiology as well as the physiology of the red cells under various pathological circumstances are beautifully illustrated.

He points out the methods of illustrating the bone marrow function, the rate of the destruction of erythrocytes as well as other important factors in red cell activity and emphasizes the importance of satisfactory classification of anemias, both from the clinical and laboratory standpoints.

Further Studies in the Treatment of Agranulocytosis. The Effect of Injections of Liver Extract and Milk Protein on the Blood and Bone Marrow of the Rat. Carl Reich, M.D., and Eleanor Reich, New York, N. Y. The Journal of Laboratory and Clinical Medicine. Vol. 22, No. 5, February, 1937.

In this the authors have reported the results of injections of milk and liver extract on a group of laboratory animals. It was found that injections of milk protein were about the equivalent of the injections of normal saline and were, therefore, of very little value in stimulating or improving the maturation of the granulocytes of the rat.

Injections of liver extract has a moderate stimulating effect.

The authors recommended that liver extract should be tried in these cases.

I have had a case of agranulocytosis in the hospital under careful observation for more than one year and have repeatedly tried the use of liver extract but without any evidences of stimulation of granulocytes.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M.D.
911 Medical Arts Building, Tulsa

Subconjunctival Section of the Ductules of the Lacrimal Gland as a Cure for Epiphora. Archives of Ophthalmology, February, 1937. P. Chalmers Jameson, M.D., Brooklyn.

The treatment of epiphora that has not yielded to the ordinary procedures is here discussed. The author's procedure aids such surgical maneuvers as repeated probings for occlusion of the nasal duct and complete obliteration of the lacrimal sac and canaliculi following extirpation of the sac.

Extirpation of the gland has lost popularity because of thrombosis, pressure on optic nerve, orbital hemorrhage and possible ptosis.

According to Sokalski the conjunctival caruncle and merbomian glands furnish sufficient moisture for lubrication of the eyeball.

Whitnall is authority for the statement that the ductules seldom number more than twelve.

The author has operated six patients recently with gratifying results; his technic is as follows: An opening large enough to allow free manipulation of Stevens scissors is made on the conjunctival surface of the lid adjacent to and a little below the outer canthus; the lid is everted and the fornix put on a stretch and using the scissors the conjunctiva is separated from all basic tissues of the fornix for a distance of the outer two-thirds; the openings of the ductules are not visible; the bulbar conjunctiva adjacent to the fornix is put on a stretch and the operator reassures himself that the separation of the basic tissues is complete; if it is complete then all ductules have been cut. Care must be taken to avoid cutting the levator muscle at its insertion into the tarsal cartilage.

Post-operative there was no edema of the orbital tissues although some complained of a fuller sensation of the cheek on the operated side; this was scarcely noticeable. After treatment consists of a compression bandage for a day or two and use of metaphen 1:2,500 instilled. Ten to fourteen days is required for the healing of the primary incision and then the cure should be evident.

Xerosis of the conjunctiva or any condition which impairs conjunctival contribution is a contra-indication.

Engelking's article on corneal and conjunctival changes resulting from insufficient lacrimal secretion is discussed.

Some of the advantages of this procedure, as claimed by the author are: simple technic under local deep anesthesia; rapid performance; almost extra-orbital; little trauma; no penetration of the posterior areolar fat; and saves subjecting the patient to a semi-major procedure.

Familial Hyaline Dystrophy in the Fundus Oculi or Doyne's Family Honeycomb "Choroiditis." M. Tree, London. The British Journal of Ophthalmology, February, 1937.

Various pathological conditions in the eye may produce hyaline exudates in relation to the choroid and retina. The hyaline degeneration is a product of altered local metabolism, and occurs according to the author as a degenerative change in inflammatory exudates; as a result of chronic toxaemias; as a local effect of vascular sclerosis; as one of the manifestations of senile change; and as an example of premature senescence in ocular tissues, induced by abiotrophies of congenital and familial origin.

R. W. Doyne is credited with first separating the familial type of central choroiditis. The author gives a summary of Doyne's observations on this condition. The normal histology is reviewed. The aetiology is discussed, and some theories given from Fuchs, Parsons, and Lauber.

The material for this publication was obtained from the Oxford Eye Hospital. The writer examined eight affected cases, and twelve unaffected descendants. Other case records of the hospital were scrutinized. The results of the refraction of these cases showed them with no marked tendency to hypermetropia or under-development, but the eyes of the unaffected members were inclined to be more myopic.

The visual field examination showed them normal in the beginning of the disease; much later there may occur paracentral scotoma; and the peripheral fields remain full throughout.

The estimation of the light sense and color thresholds by means of Dr. George Young's Album of Thresholds tests yielded no useful information. In far advanced cases both the light sense and color thresholds were equally reduced.

The general physical examinations were essentially negative; no associated mental disturbances

or family history of mental trouble (in contradistinction from the three sisters described by Hutchinson and Tay).

No abnormalities were noted in the media of the affected patients; no posterior polar or complicated cataracts were noted; vitreous was normal; no constantly associated developmental ocular defects were found; and the retinal vessels and color of the optic discs were normal.

The author's description of the fundus does not lend itself well to a recapitulation so it is being given verbatim: "The AVERAGE FUNDUS APPEARANCE of a typical fully developed honeycomb 'choroiditis' consists in the presence of a horizontally disposed oval area of closely packed rounded exudates, enclosed above and below by the upper and lower temporal branches of the retinal vessels. Laterally the area extends from the margins of the optic disc towards the temporal side of the fundus for about five disc diameters, while the vertical extent is about three disc diameters. The exudate are greyish-white or putty-colored, and are for the most part of uniform size and rounded. The average diameter of the spots is about two to three times that of the main retinal vessels at the disc. At this stage the spots are discrete and surrounded by shadow-rings suggesting a honeycomb or circular mosaic appearance. A few rounded exudates are present on the disc margin deep to the retinal vessels, and a few isolated spots occur to the nasal side of the optic disc. A small amount of irregularly disposed pigment may be present, mostly in interlacing linear formation in the macular area, with some fainter cloudy pigmentation. As a temporary phenomenon a small amount of hemorrhage may be seen at the macular region, and this occurrence coincides with a decrease in visual acuity. The whole condition is bilateral, though the appearance may vary in the two eyes and may be slightly more advanced in one than in the other."

A detailed description of the fundus in early and advanced cases is given. Of the two main families concerned, two genealogical trees are given. Photographs of several fundi are reproduced.

The differential diagnosis includes cerebromacular degenerations, retinitis punctata albescens, early mild disseminated choroiditis, arteriosclerotic retinitis, renal retinitis, diffuse choroiditis and exudate retinitis. Each condition is differentiated. The cases are given in much detail with reproduction of many of the defects in the visual field.

Upper Dysphagia. D. R. Paterson, Cardiff. The Journal of Laryngology and Otology, February, 1937.

The article begins thus: "The oesophagus has been termed, not inaptly, the step-child of practical medicine and, like its prototype, it has suffered unduly from neglect."

Tongue depressors, spatulae, laryngeal mirrors and the oesophagoscope are some of the mechanical aids mentioned for the examination. The Vienna school, and especially Stoerk and Mikulicz are given credit for the evolution of the oesophagoscope.

Radiography with the judicious use of barium has helped in locating folds and irregularities of the mucous surface, varices, small ulcers, pouching, stenosis, dilation, and non-opaque foreign bodies such as chicken bones and fish bones.

Congenital narrowing of the oesophagus is perhaps one of the most interesting and least recognized conditions in the adult that produces dysphagia. Dysphagia does not necessarily accompany a congenital narrowing of the oesophagus as Brown-Kelly showed a few years ago at post mortem on a male age thirty-five, who had never given any history of difficulty in swallowing but the lumen at the pharyngo-oesophageal junction was only four millimeters in diameter. Greig reported the case of a woman, age eighty-two, death due to senility, who had lived all her life on liquids, showed good development and no emaciation, but there was a narrowing of the oesophagus at the cricoid level through which only a small probe could be passed with difficulty. According to Jackson well masticated solid food can be passed through a lumen of five millimeters in diameter.

A condition is described which has dysphagia as a cardinal symptom but no evidence of an organic disease; this is called "functional dysphagia" and is made up of an undifferentiated group varying from hysterical vagaries to more grave signs of an inability to swallow. This usually occurs in women of middle age and often has such symptoms as anemia and atrophic changes in the mucosa of the mouth, tongue and upper pharynx in connection with increasing difficulty in swallowing. Other changes noted in the patient are the sallow appearance, cracked lips and fissures at the angles and varying degrees of glossitis. Witts in his series of cases remarks that brittleness of the nails with a tendency to split and become spoon-shaped is characteristic. The anemia may be possibly due to an iron deficiency. Achlorhydia may be present.

The order in which the symptoms appear is a moot question. The appearance obtained with an oesophagoscope is discussed. It is variable. Sixty-six cases are reported, covering the period from 1908 to 1920; the age incidence is greatest between the ages of forty and fifty, but occurred from ages twenty to seventy.

Malignancy in women many times involves this same area, i. e., the hypopharynx and the mouth of the oesophagus. It is not an uncommon thing for the disease under consideration to so terminate. Turner's statistics show the incidence of malignancy greatest at the upper end of the oesophagus in women and at the lower end in men.

The anemia is treated by the use of iron and ammonium citrate over a long period of time; the glossitis improves with liver extract; the dysphagia may sometimes be relieved by the passing of an oesophageal tube or bougie. Rogers removed the superior cervical ganglion on both sides in one case which relieved the feeling of dryness in the mouth and pharynx and enabled the patient to swallow better.

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